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SUPERINTENDENTS PREDICT THE FUTURE OF EDUCATION: A MODIFIED DELPHI

by

JANIE ANN MULLEN

©

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF

MASTER OF EDUCATION

IN

COUNSELING PSYCHOLOGY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled SUPERINTENDENTS PREDICT THE FUTURE OF EDUCATION: A MODIFIED DELPHI, submitted by JANIE A. MULLEN in partial fulfillment of the requirements for the degree of Master of Education in Counseling Psychology.

Dr. John Paterson

Dr. Henry Janzen

Dr. Ken Ward

DATE: April 19, 1993

Dedication

To my husband, Patrick. Your passion for life makes my life exciting; your clever sense of humour makes me laugh. I have learned so much from your honesty and humility. You are my kindred spirit.

Thank you for expecting nothing, and offering everything.

Abstract

The idea for this study was originated by the Public School Board's Association of Alberta. It is the first of several studies aimed at discovering what people concerned about education forecast for its future. Utilizing a modified Delphi method, surveys regarding the future of seven main areas of education (attitudes toward and education of students, the structure of the education system in general, governance and finance of education, goals and objectives of Public Education, curriculum and instruction, facilities, and political and economic implications for education) were sent to all 92 Public School Superintendents in Alberta. The superintendents who responded to the first questionnaire were sent a second survey which consisted of a rank ordering of the most frequently cited responses to Round One. Respondents were asked to endorse the original rankings, rerank the responses or add any comments. The aim was to achieve a consensus forecast for each question on the survey.

Results of the study suggest that the superintendents' forecasts are similar to those made by numerous futurists and educators. In essence, nothing novel or visionary was provided. The superintendents' predictions were unique, however, in that they consistently reflected economic concerns.

Implications for education in the future include the need to promote active learning, personal autonomy, higher cognitive skills, work experience, lifelong learning, communication skills, information access skills, learning through technology and flexibility in adapting to change. Suggestions for further research include: 1) continual investigation to identify probable futures, thus enabling educators to plan proactively rather than respond passively, 2) evaluative studies that assess, and possibly identify how to improve, the accuracy of forecasts, and 3) qualitative studies that ask open ended questions in an attempt to elicit novel and visionary ideas.

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Well Pat, it is finally complete. Yippee!

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Chapter 1

Introduction

> There is, after all, some urgency in this business of speculating about the future of education. Our current ecological\energy crisis has shown us that simple acts may have quite unexpected consequences and that some of those consequences can be very difficult, if not impossible, to undo. Unless we learn to anticipate such difficulties through creative speculation about the future, we may find ourselves in an educational future we did not want and do not like, but cannot reasonably escape (Goodyear, cited in Baker, 1971, p.iv).

Future studies in education are not new (Douglas, 1989; Shane & Tabler, 1981; Toffler, 1970; Wagschall, 1979). In Future Shock (1970), Toffler warns that learning about a here and now that quickly vanishes is fruitless and that students must learn to make assumptions about the future. "Education", he argues,"must shift into the future tense" (p. 378). Although Toffler has popularized, and to some extent legitimized, future studies in education, their impact has been less than significant (Berbekar, 1991). Today, however, the importance of future speculation is growing as technological advancement and environmental neglect could, if left unchecked, have catastrophic

consequences for the planet.

Background to the Study

The idea for this study was originated by the Public School Boards' Association of Alberta (PSBAA). The Association is concerned with improving public opinion of public school education. Their intention is to design a system that can anticipate the needs of those involved with public education, thus increasing the chance of responding effectively to these needs. In order to create such an anticipatory and responsive system, the informed opinion of people concerned about public education is being sought.

This project, then, is the first of several aimed at discovering what people really believe about the future of education. The researcher, who is not affiliated with the PSBAA and is not a school teacher, sent surveys regarding the future of various aspects of education to all 92 Public School Superintendents in Alberta. Those who responded to the first questionnaire were sent a second survey which was also a summary of the results form Round One. This same format, using the same questionnaires, will be used in 1993 when students will be surveyed, followed by veteran trustees in 1994, school based administrators and classroom teachers in 1995, and key community leaders concerned about education in 1996. The study will return to superintendents

in 1997, with the goal of maintaining an ongoing investigation of the future of public education.

Rationale for the Sample and Purpose of the Study

The volunteer sample for this project was drawn from the total population of 92 superintendents in the Province of Alberta. Superintendents were chosen because of their expertise in the area of education. Alberta regulations specify that a superintendent of schools must possess the following as a minimum requirement for the position: 1) a valid Alberta teaching certificate, 2) five years teaching experience, 3) a Bachelor of Education degree, and 4) one year of graduate study in a field acceptable to the minister (Speidelsbach, 1988). The roles of the superintendent have been variously described as teacher-scholar, administrative chief and negotiator statesman (Cuban, 1976). Indeed, different authors describe different roles (Blumberg and Blumberg, 1985; Tyack and Hansot, 1982). One set of roles that is of particular relevance to this project is what Campbell, Cunningham, Nystrand and Usdam (1985) in Storey (1987) have termed the conceptual\active roles: the roles of planner and mediator. These roles involve action and most importantly planning for the future. Alberta, too, requires its superintendents to project visions of the future, "leadership is the

capacity to guide others, and the superintendent is expected to define and articulate a vision and a mission in the administration of his school system" (Speidelsbach, 1988, p. 11).

While role descriptions are important in order to understand what superintendents are supposed to do, it is perhaps even more useful (and more realistic in term of what they actually do) to understand what superintendents, with respect to their position, are personally concerned about. In his survey of thirty-eight superintendents, Douglas (1989), found that out of thirteen issues to be ranked in order of their personal relevance, superintendents ranked Planning for the Future second only to Financing Schools. In the Alberta study (Speidelsbach, 1988), superintendents were also asked to rate the importance of several tasks, "respondents chose planning and policy development in first place" (p. 3). Clearly, future planning in education is a duty expected of superintendents, and one they personally feel is important. What directs their planning, it seems, would be their visions of the future.

It is the purpose of the writer to examine what Alberta Public School Superintendents forecast for the future of education. More specifically, the goal of the study is to examine what Alberta Public School Superintendents forecast for the future in the following

seven areas: 1) attitudes toward and education of students; 2) the structure of the education system in general; 3) governance and finance of education; 4) goals and objectives of Public Education; 5) curriculum and instruction; 6) facilities, and 7) political and economic implications for education. The results of such expert forecasting may enlighten us to some possible futures in Alberta education. It is only then that we can intelligently plan tomorrow's education system.

Necessity of Predicting

Forecasting involves making statements about the probability of an event occurring (Baker, 1971). Being probabilistic by nature, forecasts are not truths about the future. Many unexpected events can happen when discussing life decades from today. Nevertheless, this should not dissuade the use of thoughtful speculation to gain information about potential futures. Rational and deliberate forecasting by knowledgeable persons, it would seem, could help set planners in productive directions. It certainly beats the alternative - to plan with no particular inclination of what the future may hold. "Planning involves taking risks, or making bets (usually with unfavourable odds) on the future. The more information the planner has, the more he can know and improve upon the

odds, the better his chance for success"(Baker, 1971, p.3).

The Delphi Method

Long ago, when a chief or a king needed to make a decision, he would seek the counsel of his wisemen. After listening to their views, he would decide upon a course of action. Interestingly, the modern executive, company president or school administrator may follow the same procedure when faced with a complex decision. Today's procedure, however, is somewhat more developed. Known as the Delphi method, this technique of generating forecasts was the method employed in gathering the data for this study.

The Delphi technique was invented by Olaf Helmer and Norman Dalkey of the RAND Corporation in the late 1950's (Cornish, 1977). Its development was important not only because of its usefulness in generating forecasts, but because it legitimized rational methods for studying the future. Like the chief of long ago, the Delphi method recognizes that human judgments can be a source of valuable knowledge, and that the judgments of several informed people are probably more accurate than the judgments of one, perhaps biased, individual.

Typically, the Delphi method employs the following steps: 1) A group of experts in a given field is identified and sent a series of questionnaires regarding the future of

their field by mail. 2) The experts are informed of the results of the first questionnaire (e.g. what the most frequent opinion or prediction of the future was, or perhaps what some extreme views were). They do not, however, know which of the other experts gave which particular view. A second (and perhaps third) questionnaire asking similar or the same questions is then given. 3) With the knowledge of their colleagues' views now at hand, the experts can then revise their responses or stick to their initial judgments on the second and subsequent questionnaires. The process may be repeated several times until a common judgment on a given issue is reached. The result is a consensus forecast based on the views of experts.

One benefit of the Delphi method is that social phenomena that usually occur in an interactive group setting do not occur. For example, there is no pressure on any one expert to follow the views of dominant other experts when answering questions in private and when no one knows which opinion came from which expert. Another benefit of the Delphi method is that by using expert judgment, we can refrain from assuming current trends will necessarily continue. In 1964, population growth rates showed continual and rapid growth for the future. A Delphi study forecast the rate of growth would slow down due to improved birth control and increasing affluence (Cornish, 1977). The

expert judgment was correct.

Essentially, then, "Delphi procedures are designed to sharpen forecasts by reiteratively seeking consensus within a group of experts" (Baker, 1971, p. 4). They generate informed predictions which, as was previously stated, are needed to make intelligent and effective plans.

Delimitations and Limitations

This thesis was delimited by the researcher in the following manner:

1. This was a study of perceptions of Alberta Public School Superintendents.
2. Data were collected by means of two questionnaires constructed for this project. The questions composing the questionnaires were grouped under seven main topic headings. The structuring of the questionnaires in this manner may have directed the content of the responses.

A limitation of this study was the assumption by the researcher that the respondents answered truthfully and that their perceptions reflected reality. Also it is unknown if the results of this study are generalizable to other contexts (i.e. outside of Alberta).

Overview

An introduction to and the importance of the study has been presented in this chapter. In chapter 2, a conceptual framework for the study through a review of the literature is provided. The research design employed in conducting the study is presented in chapter 3, and in chapter 4, the results of the study are analyzed. Chapter 5 contains some findings of the study in light of the literature, and several conclusions and implications are provided.

Chapter 2

Review of the Literature

The future of education is inextricably woven with the future of society. We must be aware of the possible futures of society in order to choose a prudent path for our educational system. It is often said that a good education system produces persons ready to contribute to and work productively in society. Demands of society must therefore dictate the structure of education, or as Dede (1989) concisely states: "As jobs change, schools must shift in response" (p. 23).

This review is structured to move from the general to the specific. First, some future images of society, as seen by a number of prominent futurists, are presented. Second, the future of education is outlined, and third, superintendents' views on the future of education are examined.

Some Future Images of Society

Accelerated Change

Examining the societal futures literature reveals a plethora of trends occurring in society which, to the best

of anyone's knowledge, will likely continue into the future. Although there are numerous specific trends, many futurists discuss broad trends which will alter society and therefore education.

Perhaps the most pervasive theme emanating from the literature revolves around the accelerated rate of change. Berghofer (1979) writes:

> The world is riding on the back of a tiger who is carrying all of us, old and young alike, into unfamiliar territory. The tiger is called *change* [original emphasis], his source of energy is technology, and the country across which he roams is that stony land, that rocky terrain, between the present and the future (p. 2).

Other futurists tell us that never before has any civilization undergone such an intense and rapid change rate as we are currently experiencing (Stevens, 1992; Benjamin, 1989; Shane and Tabler, 1981; Toffler, 1980). But, how do they know this? Although many of us may feel like things are changing quickly (we have just learned to program our VCRs and the video laser disc is now available), certainly there is no yardstick with which we can objectively measure change. Toffler (1980) explains that, "when we speak of the rate of change, we refer to the number of events crowded into an arbitrarily fixed interval of time" (p. 22). Using this as a definition for the rate

of change, Hathaway and Fiedler (1986) plotted the number of first patents for inventions granted by the United States Patent and Trademark Office between 1836 and 1986. During the first 121 years of this 150 year time period (from 1836 to 1957) half of American products were developed. In the 30 years that followed (less than one quarter of the time), the other half of patented American products were developed. Clearly, many more events are being crowded into smaller time intervals.

Other examples of the accelerated change rate in society include developments in speed. Since 1945, the speed of communication, transportation and computation have increased by ten to the seventh, eighth and, according to some estimates, even ninth powers (Hathaway, 1990; Caissy, 1986). In terms of the workplace, it is estimated that by the year 2000, 75% of jobs will be "new", that is, they do not yet exist (LeTourneau, 1987).

It is evident that change has been the norm for the last couple of decades and there is every reason to think that an accelerated change rate will continue. After analyzing the responses of 50 distinguished leaders questioned about the future, Shane (1980) reports that "... the panellists concurred that an increasingly rapid rate of change could be anticipated" (p. 59).

Knowledge and Information Overload

While continuous change is a virtual certainty in our future, so is an ever increasing quantity of knowledge that is, of course, also constantly changing. This is what many writers refer to as the "Knowledge Explosion", or "Information Overload" (MacFarlane, 1991; Caissy, 1986; Henchey, 1986; McKerlich, 1987; Toffler, 1970). Whatever our specific image of the future may be, an abundance of information available instantaneously at any computer terminal, is sure to be a part of it. To illustrate, the world's knowledge store has doubled and doubled again during this century alone (Cornish, 1986). It is estimated that in most scientific and professional fields, knowledge and information double every three to ten tears (Caissy, 1986). Naisbitt (1984) reports that by 1996, scientific and technical data will double every 20 months. With an ever growing, ever changing knowledge base, it is staggering to think what students in the future will face.

With the quantity of information growing exponentially (Henchey, 1983), it is no wonder more and more jobs are becoming information related. Society in the future will have far less workers of the "industrial" type (i.e. factory employees), and far more of the "information society" type (i.e. secretaries, managers, teachers, stockbrokers and lawyers). Information will be oozing out

of every computer in every field of study. People (jobs) will be needed to process that information. Caissy (1986) reports that while 17% of jobs were information related in 1950, that figure grew to 60% in 1980. It is now estimated that by the year 2000, a full 80% of jobs will involve information processing (Naisbitt, 1984).

In addition to the inconceivable quantity of knowledge that will be available in the future, Henchey (1983) refers to the quality of knowledge and the role it will play in our future society. He suggests that there is great development in the range, sophistication and complexity of the theories employed in the various fields of study, and that the methods used to verify these theories are improving as well. There is also evidence of a paradigm shift, says Henchey (1983), where even physics (the hardest "hard" science) is conceiving all of reality to be interconnected and engaging in holistic approaches to inquiry. This clearly indicates we are developing new logics apart from Aristotelian causality; that we are developing new ways to think (Henchey, 1983 & 1986).

With more and qualitatively different knowledge comes a new role for it. The possessor of knowledge in the future will not be just the "smart guy". He will be the "powerful guy" (Toffler, 1970; Naisbitt, 1990). It is possible, deems Henchey (1986), for our future society to concentrate power into the hands of the highly knowledgeable technical

experts who manage, indeed "shape", the lives of the non-experts. "What land was to a pre-industrial society and money was to an industrial society, knowledge is to a post-industrial society (Henchey, 1986, p. 4).

Technology and Communications

Any speculation into the future of society must include an examination of technology. Evidence of the technological bombardment of society is everywhere. Most banking today can be done through automated tellers. A glance into any large office reveals a fleet of computers, one a top every desk. Even small suburban neighbourhoods are taking on a very "high-tech" appearance with huge satellite dishes scattered throughout the backyards. Indeed, if there is one issue in the societal futures literature that is virtually undisputed it is that technology, and its continual advancement, is revolutionizing society and is here to stay (Cornish, 1986; Dede, 1989; Hathaway, 1990; Henchey, 1986; LeTourneau, 1987; Mecklenburger, 1989; Naisbitt, 1990; Toffler, 1980).

Examples illustrating the advancement in technology over the last decade are numerous. One example of particular relevance to the present study is in the area of microcomputers. Dede (1989) points out that the performance capabilities of telecommunications and computers have been

doubling every few years since World War II. According to Dede, ten years ago, a new Apple II microcomputer could be purchased for 3,500 dollars. Today, equal purchasing power (6,800 dollars) can buy a Macintosh II microcomputer. Compared to the Apple II, the Macintosh "...handles 4 times the information at 16 times the speed, preprogrammed and reprogrammable memory are both about 20 times larger, disk storage is about 90 times larger, and the display has 7 times the resolution and 16 times the number of colors" (Dede, 1989, p. 23). Dede carries on to postulate that current information systems will likely be replaced over the next couple decades by more sophisticated systems that can create, transfer and use knowledge. The same, he says, can be predicted for telecommunications: videorecorders, intelligent telephones and optical fiber networks.

What will be the impact of "high-tech" on everyday activities like school and work? Technology and the future of education will be examined later. In terms of work, as was previously stated, in a society flooded with information, many more jobs deal with the processing of information. Secretaries no longer type on typewriters. They work on wordprocessors where they must know how to use communications, graphics and desktop publishing applications (Dede, 1989). Job requirements have shifted from 80 words per minute to higher-order cognitive abilities including analysis (knowing where to find what

kinds of information and deciding what is important) and synthesis (bringing the information together to create a unified product). LeTourneau (1987) reports that tracking the effects of technology on a wide variety of occupations over the past few years suggests that technology is generally "raising skill levels". Many jobs are becoming more and more intellectual and abstract in their nature as machines perform the standardized problem-solving tasks (outlining, spell-checking, and text analyzing in the case of secretaries), leaving the creative and flexible aspects (developing an interesting and eloquent letter) to human workers (Dede, 1989; LeTourneau, 1987).

Contrary viewpoints, however, have also been presented. New technologies may not require increased skill levels. Rather, because sophisticated machines and robots can handle many complex tasks, a large number of future jobs may be eliminated or require only minimal skill levels (Hathaway, 1990). There will be a need for the highly skilled who develop and build the complex machines, but in terms of numbers, it will be a small need (Rumberger, 1987). The concern that arises out of this perspective is that a polarization of wealth may occur. With many of the "middle-level" jobs being eliminated, a high-skill job market remains for the "technolords" who manage the hoards of largely unskilled people - the "technosurfs" (Henchey, 1986).

The impact of technology on the emerging job market is thus not clear. It depends on the kinds of new technology developed and on how the workplace utilizes it (Rumberger, 1987). There seems to be room for optimism if society's current leaders focus on helping to shape the emerging system, rather than simply respond to it.

While future job skill requirements are unclear, continual advancements in telecommunications and technology will likely result in the need to shift jobs frequently (Cornish, 1986; Hordern, 1991; Toffler, 1980). Benjamin (1989) notes that in a society where change is the only constant and technology races ahead, new industries may be developed, operate successfully and become obsolete over the course of a few years. In order to stay employed in such a society, workers may need to switch careers as many as five times during their working life. What skills they will need to shift jobs is yet another question.

One positive impact technology may have on the workplace is increased cooperation and shared decision-making (LeTourneau, 1987). Through the use of information technologies (e.g. computers), workers can quickly relate and share ideas with each other, and with management. For example, employees in a manufacturing company could relate a design flaw in a new product to the engineers located in a different city. The engineers could then correct the flaw and send the new design (by computer of fax) to the shop

workers the same day. Little time and money are lost, and the workers' input influenced the design of the product.

Armed with computers, there is little workers and people in general do not know, or cannot find out. Naisbitt (1990) refers to this as technology's ability to empower individuals. Because of computers, global broadcasting, telephones, videorecorders, fax machines and so forth, people can acquire or disseminate virtually any type of information they desire. This has implications for the future of governments of the world, says Naisbitt, as it is difficult to control people if information cannot be controlled. Perhaps more democracies will arise in the future.

It is because of sophisticated technology and telecommunications that the world of the future (many would say the present), will not be an isolated one. Almost two decades ago, Shane (1977) stated, "Persuasive rhetoric is unnecessary to make the point that *any* country's problems anywhere are now *every* country's problems everywhere" (original emphasis, p. 15). Recent environmental catastrophes have clearly illustrated our global interdependency.

The Future of Education

Given that our future society will change rapidly and

be inundated with information and technological developments, what are the implications for education? The pool of literature related to the future of education is enormous: not only are there books, papers and articles on the future of the various aspects of education perse, but many other topic areas (e.g. technology, government policy, social development and economic reform, to name a few) also deal with education in the future. In light of this, as well as the broad scope of the topics investigated in the present study, only literature containing specific predictions for the future in the areas of education covered by the questionnaires was selected and reviewed.

Attitude Toward and Education of Students

In a very general sense, a selected review of the educational futures literature revealed a positive attitude toward students in the future. A frequent forecast was that students will be more responsible in the future; that they will be more actively involved in planning their own educational programs (Benjamin, 1989; Glines & Long, 1992;). With the shifting role of the teacher from knowledge provider to facilitator (this idea will be examined later), students will be expected to form partnerships with their teachers wherein both decide on the program of education to be followed (Sussman, 1986).

Structure of the Education System in General

In describing the organizational structure of the education system in the future, "open" and "interconnected" are two terms that are frequently cited in the literature. Schools in the future will be open to all ages, and instruction will occur in more locations and from more educators than is presently the case.

School structure will extend downward and upward to provide educational programs to 4 and 5 year-olds, and to mature (over 30 years) and senior (over 60 years) learners (Shane, 1989). According to Shane (1989), this need will arise as more children will come from single-parent or working-mother families and will need to be cared for during the day. Also, adults will need to re-educate as technology and robots render many jobs obsolete (Dede, 1989) and the growing seniors population needs something to do. Many other writers support these views. Sussman (1986), for example, studied the views of 56 experts (via personal interviews and group discussions) regarding the future of education in Ontario. Results from this extensive study included the forecast that, "as more adults find themselves returning to school for retraining or pleasure, public acceptance for the notion that learning is a lifelong pursuit will increase" (Sussman, 1986, p. 190).

In addition to encompassing virtually all ages, school

systems in the future will be connected to all of the other major institutions in society; that is, government and social services agencies, business and industry, cultural groups, health organizations, and so on (LeTourneau, 1987). The system could be described as an interactional network with employers sending workers to school, and schools sending students to a variety of locations for learning. The structure of the teaching staff is thus altered, and members of the community who offer educational programs share in the responsibility of teaching, along with the designated "head" teacher/facilitator (LeTourneau, 1987; Shane, 1989).

School structure in the future will further be altered by technology. While references to technology's impact on education are myriad, the most frequent themes occurring in the literature refer to the ability of technology to delocalize school, to change the role of the teacher, and to drastically increase the quantity of information available to students.

Sophisticated telecommunications and information processing devices, namely computers, will allow schooling to take place at home, work and almost any other place in addition to schools (Cornish, 1986; Dede, 1989; McKerlich, 1987). Dede (1989), cites an example where a student in a technical writing course could write real reports on a word processor at a legitimate workplace for a week. A record of

the student's writing process could then be brought to class for evaluation.

Computers can store and retrieve on command immense amounts of information. This, according to many authors, will change the role of the traditional school teacher (Benjamin, 1989; Mecklenburger, 1989; Naisbitt, 1990; Sussman, 1986). When students can directly and instantaneously access any type of information they need, the role of the teacher as "dispenser of information" seems archaic. The new role becomes one of "learning coach" or "facilitator", responsible for planning, directing and evaluating student programs, and motivating students (Cornish,1986; Mecklenburger, 1989; Sussman, 1986).

Most of the authors included in this review applauded technological advancements and called for a greater understanding of technology by educators.

> Merely possessing some technology or being 'literate' about technology, the goals of the 1980s, will be trivial achievements in the 1990s. Ultimately, electronic technology will be universally accepted and used because it provides better ways to teach and learn (Mecklenburger, 1989, p.8).

School children appear to share this view. Delisle (1989) surveyed 986 gifted children from the United States, Canada and the Republic of South Africa to identify their views of education in the 21st century. In terms of technology, "the vast majority of students await anxiously the arrival of new technologies into their lives, and many of them call for increased emphasis *now* [original emphasis]

on computer education" (Delisle, 1989, p.15).

There is some disagreement with this positive view of technology. In a study of Saskatchewan teachers' views of technology, Fleming (1992) noted that the teachers in his study had a "restricted" view of technology. That is, they saw technology as an applied science or as the products of technology (artifacts). Similarly, in a Delphi survey of 336 people from various Catholic educational organizations, O'Brian (1988) reported that respondents did not have enormous faith in technology.

Apart from a few sceptics, the majority of futurists and educators are optimistic about technology's impact on education in the future.

Governance and Finance of Education

Global interdependency and the need for Canada to stay competitive in the world economy are ideas that seem to be gaining acceptance in the literature and are producing a more centralized focus for education (Bashutski, 1990; Wilson, 1989). Reporting on the projections made by 150 educational administrators, directors and superintendents on the future of Saskatchewan education, Bashutski (1990) notes that in addition to an increase in the national government's involvement with education, more local input was also projected. Involvement of the federal government

will grow in an attempt to develop a Canadian view of education (Bashutski, 1990). Movement toward national curriculum standards is also projected in the literature, and such a movement necessitates greater national government involvement (Wilson, 1989).

Governments will not be the only recipients of increased power. Participants of the Saskatchewan conference also projected that parent involvement in educational decision-making will increase. Pressure groups (special interest groups) may also have an expanded role (Bashutski, 1990). Wilson (1989) expresses similar views, "this [influence on educational decision-making] is evident in the increased activities of interest groups who lobby for curriculum changes on social and environmental issues" (p. 15).

In terms of the role of administrators, the importance of technical and management skills will give way to good leadership skills. Bashutski (1990) notes that Saskatchewan experts predict that effective leaders in the coming decades will be those who empower others. A study of superintendents conducted by Douglas (1989) concurs with this projection and reports that superintendents consider "helping staff members to grow professionally" an important part of their job.

Curriculum and Instruction

Recommendations for curriculum change in the future are numerous. Benjamin (1989), however, reviewed 209 documents and recorded 2,223 "recommendation themes". Some frequently occurring themes as reported by Benjamin, and as discovered in the literature reviewed for this study, are outlined below.

Education in the future will need to provide active learning. Students will learn through experience, through doing, rather than sitting passively listening to lectures (Cornish, 1986). Benjamin (1989) and Van Avery (1980) note that active learning also means active planning, and students will be expected to help plan their educational programs and be responsible for their own future.

Most educators and futurists predict a need for higher cognitive skills. Students will need to think critically, abstractly, and creatively; to be flexible in problem solving, to identify bias and have the ability to quickly access, evaluate and use information (Caissy, 1986; LeTourneau 1987; Stevens, 1992). These skills are deemed necessary survival skills in a society that changes overnight and is drowning in information.

Curriculums in the future need to become more future-oriented (Shane & Tabler, 1981; Toffler, 1970; Van Avery, 1980). The rationale is that students need to be aware of

the consequences of their actions and that through the choices they make, they can shape their futures. Learning how to construct alternative futures is deemed an essential skill.

Lifelong learning was the most frequent theme encountered by the writer. The following comments made by Ornstein (1981) are representative of the majority of opinions and projections found in the literature:

> In line with the growing complexity of modern society and the corresponding need for people to have access to a greater variety of educational resources at differing stages of their lives, education will continue to become more a lifelong enterprise... (p.52).

That future students will range from the very young to the very old has implications for the design of schools and the education of teachers (Shane, 1989).

In a change-driven world where telecommunications and ease of travel increasingly put students into contact with people from other cultures and countries, the ability to adapt to change and cope with diversity will be imperative (Naisbitt, 1990; Toffler, 1970; Van Avery, 1980). Educators must help students to be flexible and comfortable with change. Pulliam (1980) contends that youth should be taught that change is inevitable and they must use it to their advantage (cited in Benjamin, 1980).

The world of today, and even more so tomorrow, is a complex and interdependent one. Solutions to one problem often cause other problems. For example, using certain

fertilizers to augment crops can cause environmental and health problems. Students need to understand the interconnectedness of society and the fragmented structure of separate subjects in most curriculums is deemed by most writers to be outdated (Glines & Long, 1992; Van Avery, 1980). In describing how technology could aid in achieving the instructional goal of an integrated curriculum, Dede (1989) notes, "the curriculum could shift from a subject-centered, disciplinary emphasis to a focus on real-world problem solving using perspectives and tools from multiple fields" (p. 26).

With the increasing use of computers, teachers will be able to spend more time developing programs to meet the individual needs of students. "Personalized" or "Individualized" curriculums will allow students to progress at their own pace and follow programs that are interesting and relevant to their chosen futures (Cornish, 1986). This focus on personalized programs also encourages the teaching style of the teacher to match the learning style of the student (Glines & Long, 1992).

After lifelong learning, the most frequently occurring theme in the literature reviewed by the writer was the importance of process, rather than content, in future curriculums and instructional approaches (Bashutski, 1990; Caissy, 1986; Stevens, 1992; Van Avery, 1980). Kirschenbaum and Simon (1974) concisely summarize the views of most

writers:

> Traditionally, subject matter has been regarded as a fixed body of knowledge which all people needed to know Shakespeare, the parts of speech, quadratic equations, the major products of Argentina, and the parts of the digestive system were treated as the ends of education. More recently, we have realized that, in a world in which the amount of knowledge increases geometrically, in which no one can keep pace with it, we need to change our emphasis from *what* to learn to *how* to learn [original emphasis]. The shift has been from content to process (cited in Benjamin, 1989,p.11).

The last of the frequently occurring curriculum themes is the need for "people" or communication skills. Students will need to be able to communicate with fellow workers in an increasingly democratic and information related workplace (Rumberger, 1987). In addition to good communication skills, Shane and Tabler (1981) suggest that in a multicultural, multi-ethnic world, the ability to speak several languages may be a survival skill.

Future recommendations for instruction are, to a great extent, interwoven with curricular suggestions. The primary prediction, however, is that teachers need to teach students how to learn. There is simply no point in focusing on a specific content that may be obsolete in a matter of a few years (Bashutski, 1990; Caissy, 1986; LeTourneau, 1987).

Facilities

Predictions regarding the future of the traditional

school building tend to be of four types. First, designers in the future will need to create spaces that accommodate individualized instruction (McInerney, 1987). Different types of learning centers (e.g. private lofts for students who learn best alone, or brightly coloured display areas, complete with videotaped demonstrations, for visual learners) will be designed to match a variety of learning styles. Second, Dede (1989) and McInerney (1987) point out that increasing technology will require the school building to be electrically equipped to receive, store and transmit huge quantities of information. Third, future schools are predicted to be structurally smaller to reduce feelings of alienation and violence (Cornish, 1986). Furthermore, much of schooling will occur outside the school building itself, rendering large size unnecessary. Fourth, schools in the future will be interconnected with the community and with businesses. School-work linkage programs will expand and the school building will become a "service center" and a "resource house" to the learners who pass through its doors (Glines & Long, 1992; McInerney, 1987; Sussman, 1986).

Superintendent Studies

Much of the futures literature is scholarly opinion. Actual studies are comparatively small in number. *Research* related to superintendents' views on the future of

education is also sparse and is outlined below.

Douglas (1989) studied how superintendents and school board members viewed the future in an attempt to identify probable areas of conflict. Participants were asked to predict five issues they thought would emerge over the next ten years and be important to their role as superintendents. In the course of his research, Douglas identified 13 issues on which his sample of 38 superintendents and 34 board members showed a high degree of consensus. The following four issues were unique to the superintendents: equity/excellence/accountability, professional concerns, planning for the future, and staff development. Douglas further noted that when asked what issues were important to them personally, superintendents ranked "financing schools" and "planning for the future" first and second respectively. "Encroachment of larger (federal) governments" received very low scores.

Dillon and Wright (1980) surveyed 120 administrators across the United States and Canada and asked for their predictions for education in the year 2000. Under the heading of organization and administration, participants in this survey predicted that leaders in education will need better mediating skills in the future. They also suggested that the governance of education will shift to larger (i.e. state and federal) units. Many respondents predicted that teachers will have a growing influence on the education

system and that as a whole, teachers will be more competent. Sussman's (1986) study of 56 educational experts in Ontario also foresaw an increase in the expertise of teachers (e.g. they will be able to diagnose even the most obscure learning disabilities). Participants in the Dillon and Wright (1980) study, predicted that preservice training for teachers will become longer in the future. A common forecast in both studies (Dillon & Wright, 1980 and Sussman, 1980) was that teaching methodology in the year 2000 will focus on individualized instruction, made possible through increased use of computers. The role of the teacher was predicted to be more of a coordinator with technological devices taking over the delivery of content (Sussman, 1986).

In terms of the curriculum, the most common prediction centered around the "schools without walls" idea. Through work-study programs and education in the community, schooling will occur in numerous locations (Dillon & Wright, 1980). Other areas of emphasis in curricula of the future included: technology, consumerism, ecology, conservation, evaluation of media, job training and interpersonal relationships. Vaupel and Sweat (1985) surveyed 164 Arkansas superintendents regarding their predictions for the 20 most important courses and activities in the new century. Technology was highlighted again as the highest ranked courses included computer

science, physics, soccer, economics and composition. Sussman's (1986) participants predicted that particular course content will not be as important as the need for higher cognitive skills (abstract reasoning, problem solving and decision making). The movement toward increased integration of all types of learners (including the learning disabled) will increase, and there will be greater emphasis on education for the gifted (Dillon & Wright, 1980).

Regarding facilities, the most common projection was that learning will increasingly take place in a variety of settings apart from the school. More and stronger cooperative relationships between schools and communities was also predicted (Dillon & Wright, 1980; Sussman, 1986).

Chapter 3

Research Design and Methodology

Research Design

A modified Delphi survey research method was utilized. The method was modified in that in a true Delphic survey, the round one questionnaire consists of a few very general questions. The questions are general to allow the respondents to identify the issues to be included on the second (and perhaps subsequent) questionnaires. The idea is that the respondents generate the issues to be examined (Cornish, 1977). In the present study, while there was an attempt to keep the Round One questions open ended and general, there were a larger number of questions grouped into several main topic areas. Thus, by asking about certain areas of education, some guiding of the issues generated by the superintendents occurred.

Round One of the questionnaire (Appendix B), along with a letter of transmittal (Appendix A) outlining the purpose of the research, was sent to all 92 Alberta Public School Superintendents on June 26, 1992. Four weeks thereafter, July 24, 1992, nonrespondents were sent a follow-up letter (Appendix C) and encouraged to respond. On August 10, 1992, telephone follow-up began for the

remaining nonrespondents.

On November 6, 1992, a second transmittal letter (Appendix D), also describing the purpose of the study and the importance of a response was sent with the Round Two Questionnaire (Appendix E) to those superintendents who responded to Round One. Both questionnaires were accompanied by a stamped, self-addressed reply envelope. Research studies have shown that providing such a reply envelope improves the return rate (Babbie, 1989).

Sample

Round One

As stated previously, the entire population (92) of Alberta Public School Superintendents was sent the Round One Questionnaire. The distribution of the sample by age can be seen in Table 3.2, by gender in Table 3.3, and by type of school system in Table 3.4. Also, respondents had held the position of Superintendent of Schools for an average of 7.7 years, with the range being from 2 months to 27 years. These figures are based on the 42 superintendents who answered the question: "How long have you been a superintendent?" Two superintendents did not answer the question and one respondent answered in lieu of the superintendent of his school system.

Telephone follow-up revealed that five of the superintendents who were originally sent a Round One Questionnaire were either retired or in the process of being replaced. "In computing response rates, the accepted practice is to omit all those questionnaires that could not be delivered" (Babbie, 1973, p. 165). Since five Round One Questionnaires could not be delivered, the total number of questionnaires delivered to and assumed received by the superintendents was 87. Babbie (1973) advises to divide the number of questionnaires returned by the net sample (or in the case of the present study, population) size (calculated by subtracting the number of questionnaires that could not be delivered from the number initially sent out) to reveal the response rate. In the present study, 45 superintendents returned the Round One Questionnaire to produce a 51% response rate (see Table 3.1).

TABLE 3.1

Return Rate of Questionnaires: Round One

Sent	Delivered	Returned	Response Rate
92	87	45	51 %

While a response rate of 50% is, as a rule of thumb, considered adequate for analysis (Babbie, 1989), two factors that may have affected the response rate of this study are timing and depth of response. Round One of the

questionnaires was sent out June 26, 1992, the end of the school year. Some superintendents were already on holidays and others were heavily involved in year end activities (revealed in the telephone follow-up). Also, the questions asked on this instrument required at least some thought and were not easily answered in a few sentences (one respondent provided a two-page type-written addendum to elaborate on his responses). Response rate may have been compromised for depth of response.

Table 3.2

Distribution of Sample by Age

Age	N	Percent
35 - 44	8	17.8
45 - 54	31	68.9
55 - 64	6	13.3
Total	45	100

Table 3.3

Distribution of Sample by Gender

Sex	N	Percent
Male	43	95.6
Female	2	4.4
Total	45	100

Table 3.4

Distribution of Sample by Type of School System

Type	N	Percent
Rural	31	68.9
Urban	14	31.1
Total	45	100

Round Two

Forty of the 45 superintendents who returned the Round One Questionnaire provided their names, or the names of their school boards, to identify them. This enabled a Round Two Questionnaire to be sent to them. Since it was necessary for Round Two to be completed only by those who completed Round One (consensus of opinion was being sought and therefore no new individuals could be included), the five anonymous superintendents from Round One were ignored as it was not financially prudent to send out 42 questionnaires in an effort to gain five replies.

Thirty-one superintendents returned the Round Two Questionnaire producing a 78% response rate (see Table 3.2). According to Babbie (1989), a 70% response rate is "very good". The increase in the rate of response from Round One to Round Two is likely attributable to the fact that the latter questionnaire required no writing (unless

one chose to add comments), but rather involved reranking, agreeing or disagreeing. Its distribution (November 6, 1992) was also more timely as most superintendents were likely at work as opposed to being on, or preparing for, vacation.

TABLE 3.5

Return Rate of Questionnaires: Round Two

Sent	Delivered	Returned	Response Rate
40	40	31	78 %

Questionnaires

The 1992 Delphic Survey for the Public School Boards' Association of Alberta - Round One emerged from the brainstorming of the Association's Executive Director, David King. Understanding the aims of the Association, namely to anticipate the needs of those involved with public education, Mr. King created a list of questions regarding the future of education (some demographic questions were included in this list). The questions were then revised by the researcher and Mr. King's Special Assistant, Shelley Golonowski, to be more general in form and thus more in line with the Delphic survey model. Other revisions were made in accordance with the recommendations made by Borg & Gall (1983). The questionnaire was made to

be attractive, using bold type to highlight questions, and using more paper (rather than less to make it look shorter) so it would not appear crowded. The items were organized, grouping related questions under main headings, and all of the pages were numbered. The questionnaire was then viewed and approved by two experts in education, Dr. Henry Janzen, Director of Clinical Services, University of Alberta, and Dr. John Paterson, Clinical Services Coordinator and Associate Dean of Education, University of Alberta. According to Anastasi (1982), some content validity can be accorded an instrument if subject-matter experts view the content to be appropriate.

Steps were also taken to make the transmittal letters explanatory and attractive to further increase the appeal of the questionnaire. Replies were requested by a particular date (August 20 and December 7) to help increase response rate (Borg & Gall, 1983). A stamped, self-addressed envelope was provided to increase the impressiveness of the questionnaire package, as well as to increase the rate of response. The tone of the follow-up letter was to assume that nonrespondents meant to reply but due to an error of the researcher, or some other oversight, the questionnaire was overlooked.

Round Two of the 1992 Delphic Survey for the Public School Boards' Association of Alberta presented the exact

same questions as Round One with the most frequent answers from Round One provided in rank order (a rank of one indicated that response was the most frequent given by the superintendents on the Round One Questionnaire). Demographic questions were not included on Round Two as no particular response patterns based on such data were apparent in Round One.

Analysis of Data

Every unique response given to each question on the Round One Questionnaire was recorded (the sex, age category and type of school jurisdiction of the respondent were also recorded). The frequency of each response was then tabulated and given a rank. The most frequent response received a rank of one, the second most frequent response received a rank of two, and so on. Some questions had two or three prominent responses, while others had seven or eight. The ranked responses (along with the original questions) were then sent to each of the superintendents who responded to Round One. This formed the Round Two Questionnaire where the superintendents, now equipped with the knowledge of their colleagues opinions, could endorse the rankings, rerank the responses, or add any additional comments. The average rank given to each response on the

Round Two Questionnaire was determined and the responses were then reranked by the researcher. How many times a response was ranked number one, two or three, and so on, was also recorded. This information (frequency distribution tables of Round Two response ranks) is sometimes referred to in chapter four and is thus presented in Appendix F.

The questionnaires which had missing responses (e.g. reranked only the top two or three responses when more were provided) were still used as average rankings were calculable by adjusting for n (number of respondents).

Chapter 4

Results

In the present study, two rounds of questionnaires were sent to a volunteer sample of Public School Superintendents. On the first questionnaire, participants were asked to make predictions regarding various aspects of education. On the second questionnaire, these predictions were rank ordered according to frequency and respondents were asked to either endorse the rankings or rerank the original responses. Round Two responses are considered a more accurate reflection of the superintendents' views than are Round One responses. This is because when they responded to the Round Two Questionnaire, the superintendents had the knowledge of their colleagues' views expressed on Round One. They also had time to reconsider their original responses.

The findings for each question are presented from three perspectives. In the first perspective the results are outlined in tabular form. The tables depict the rank ordered responses from Round One (based on frequency) and the rank ordered responses from Round Two (based on the average rank given to a response on Round Two). In the second perspective the average rank given to each response on Round Two is presented in graphic form. Because the

numerals used in ordinal placements (rank of 1, 2, 3, and so on) are not quantitative, they can only indicate position in an ordered series. They do not indicate the degree of difference between successive positions (Runyon & Haber, 1984). The graphs enable the difference between average ranks to be visualized. It is important to note that on the graphs, the lower the bar, the better the "score". That is, a low bar indicates a numerically low average rank, but a rank of one suggests that the response is more likely than does a rank of two or more. The third perspective offers a written description of the results.

TABLE 4.1

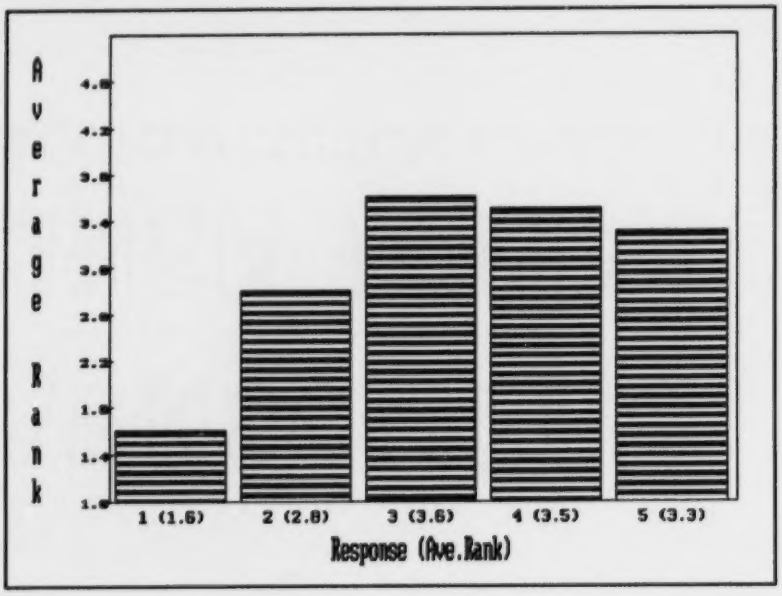
Rank Ordering of Responses to Section 1, Question A.I: What is likely to be the attitude of adults towards students in the future?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. There will be competition for services between the growing seniors population and the education of students.	1
2	2. There will be continued disappointment with what students are accomplishing and doing.	2
3	3.There will be no change in the attitude of adults towards students.	5
4	4. Students will be viewed as responsible for their own education and actions (more self-determined).	4
5	5. Life-long learning will become necessary and most adults will also be students.	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.1

Average Rank Given to Responses on Section 1, Question A.I: What is likely to be the attitude of adults towards students in the future?



It appears for this question, most superintendents think that adults in the future will view students and seniors as competitors, both vying for services: will limited government funds go toward Old Age Pensions or updating the technology in schools? The average ranks of the remaining four responses were quite close suggesting one attitude is not all that more likely than the others.

TABLE 4.2

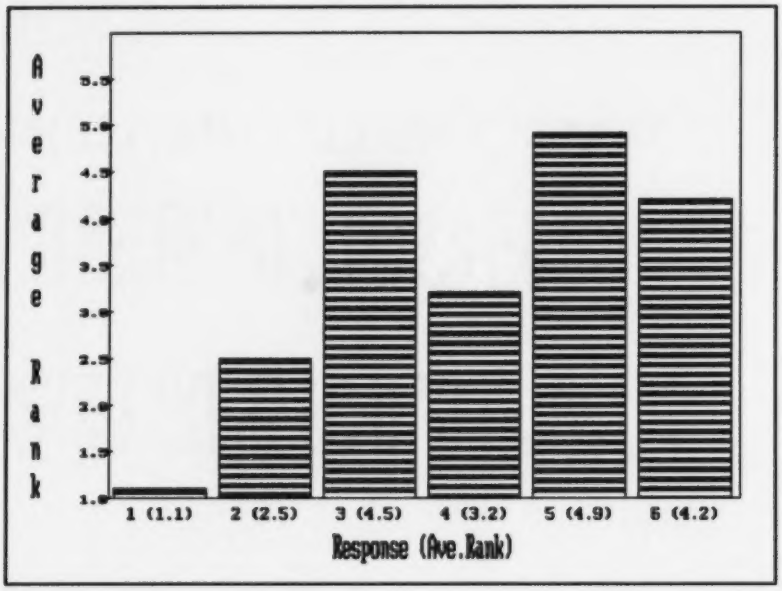
Rank Ordering of Responses to Section 1, Question A.II: What expectations are adults likely to have of students?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. There will be greater expectations for performance.	1
2	2. Students will be expected to be actively involved in planning their own future; to be responsible.	2
3	3. There will be no change in the expectations of students.	5
4	4. Students will be expected to complete school with good skills for job entry or higher education.	3
5	5. Expectations of students will be consistent with adult (parent) expectations and experiences.	6
5	6. Students will be expected to be adaptable; to adjust to changing times.	4

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.2

Average Rank Given to Responses on Section 1, Question A.II: What expectations are adults likely to have of students?



Clearly, superintendents in this study predicted adults' expectations for student performance to increase in the future (this response received an almost perfect rank of 1). The superintendents also predicted that adults will expect students to be involved in the planning of their own future and to graduate with marketable skills. Interestingly, while response 3 ("There will be no change in the expectation of students") was the third most frequently cited response in Round One, it received a fifth place ranking (average rank of 4.5) on Round Two. Also interesting, response 6 ("Students will be expected to be

adaptable; to adjust to changing times") received a relatively "poor" average rank (4.2) for this question.

TABLE 4.3

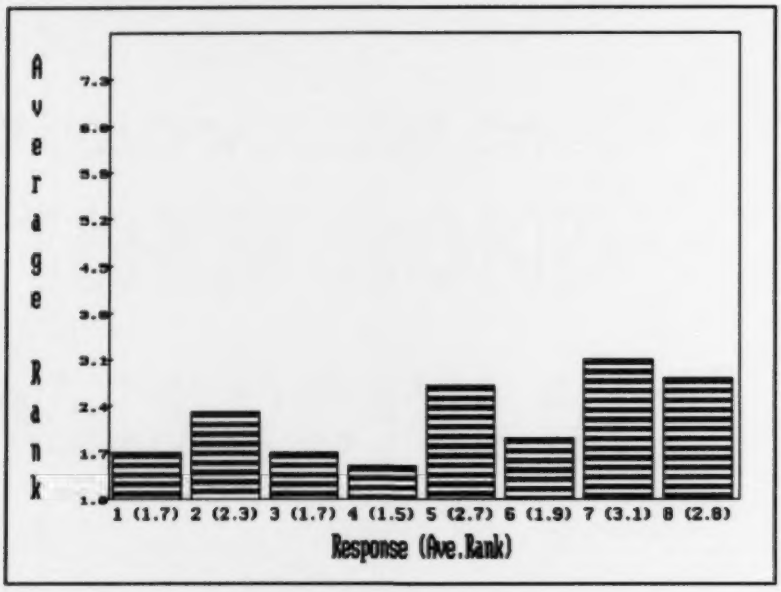
Rank Ordering of Responses to Section 1, Question B: How might the attitudes and expectations described in Part A influence the education of students?

*Rd.One Rank	Response	**RD.Two Rank
1	1. There will be an increase in streaming students with various talents (specialized schools).	2
1	2. There will be a resistance to change the education of students.	4
1	3. Increase in educational costs will mean doing more with less.	2
1	4. Education will become "meaner and leaner."	1
2	5. There will be more time spent in training institutions (less in "school") with the emphasis being on utility.	5
2	6. Learning through technology will increase.	3
2	7. Opportunities for students will be curtailed by adults' difficulties with change.	7
2	8. There will be a need to prepare students for a desired future.	6

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.3

Average Rank Given to Responses on Section 1, Question B: How might the attitudes and expectations described in part A influence the education of students?



While response 4 ("Education will become meaner and leaner") ranked number one with an average rank of 1.5, responses 1, 3 and 6 were very close with average ranks of 1.7 and 1.9. The superintendents ranked response 7 ("Opportunities for students will be curtailed by adults' difficulties with change") as least likely among the responses. However, the average rank for this response was 3.1. The range of the rankings (from 1.5 to 3.5) was thus quite small, indicating that all of the responses were deemed likely by the superintendents.

TABLE 4.4

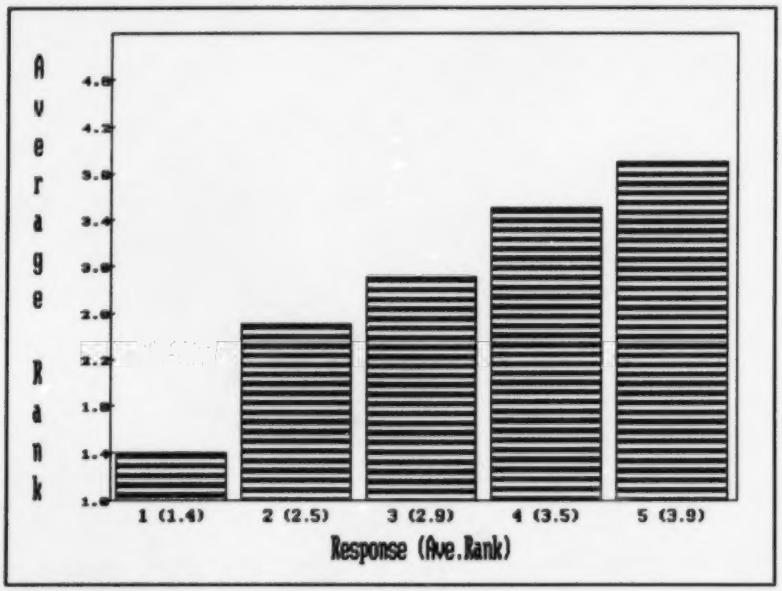
Rank Ordering of Responses to Section 1, Question C: What do you think students will expect from their education system in the future?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. To prepare them for a variety of career options, economic success or further studies.	1
2	2. That there will be a relevant program that matches their learning styles and interest.	2
3	3. To have the skills to deal with life choices in a changing society.	3
4	4. To be more flexible with programs, scheduling, exams. home schooling, individual study, etc.	4
4	5. Higher quality of delivery /instruction /methodology. Educational reform.	5

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.4

Average Rank Given to Responses on Section 1, Question C: What do you think students will expect from their education system in the future?



The superintendents remained very consistent on this question as average ranks from Round Two did not change the original rankings. Response 1 ("To prepare them for a variety of career options, economic success or further studies") was predicted by the superintendents to be the most likely expectation students in the future will have of the education system.

TABLE 4.5

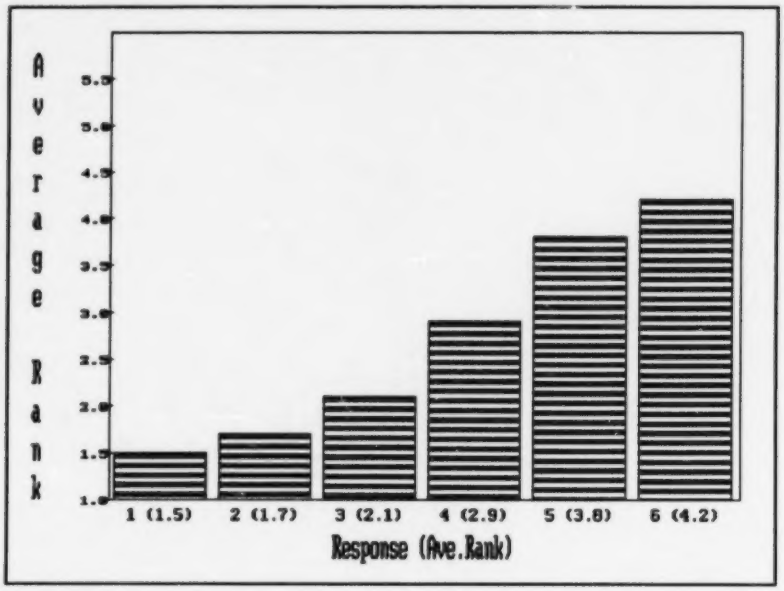
Rank Ordering of Responses to Section II, Question A: What do you think the education system will look like in the future?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. There will be closer ties with the community, business and industry. Work experience and career options will be more important, and there will be easier movement between school and work.	1
1	2. It will be more open with many more "players" from the community providing educational programs to people of all ages (more delivery systems, less institutionalized, more locations).	2
2	3. There will be a higher technological component (improved use of computers).	3
3	4. It will be highly individualized. Students progress at their own rate.	4
4	5. Teachers will be more like consultants /facilitators of learning.	5
4	6. There will be increased centralization (administrative and financial).	6

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.5

Average Rank Given to Responses on Section II, Question A: What do you think the education system will look like in the future?



As responses 1 and 2 were ranked very similarly (1.5 and 1.7 respectively), it can be said that the superintendents predicted that education in the future will be more closely tied to business and the community, to provide more work experience, and to be more open with more people from the community providing educational programs. Among the responses cited in Round One, response 6 ("There will be increased centralization") was ranked as least likely.

TABLE 4.6

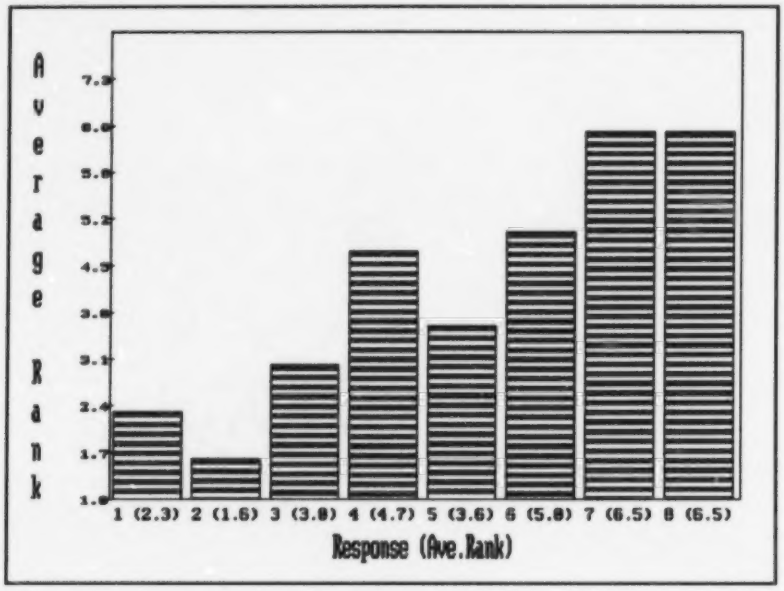
Rank Ordering of Responses to Section II, Question B: What would you identify as the major groups concerned about education?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. Business /Industry /Employers	2
2	2. Parents	1
3	3. Students	3
4	4. Government	5
5	5. Teachers	4
6	6. Community /Society /Public	6
7	7. Rate payers	7
7	8. Further educational institutions	7

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.6

Average Rank Given to Responses on Section II, Question B: What would you identify as the major groups concerned about education?



As can be seen in the graph, the superintendents considered parents (response 1) to be the primary group concerned about education. The business community, students and teachers were also identified as concerned groups. Among the options listed, ratepayers and further educational institutions tied for the last place ranking of 7.

TABLE 4.7

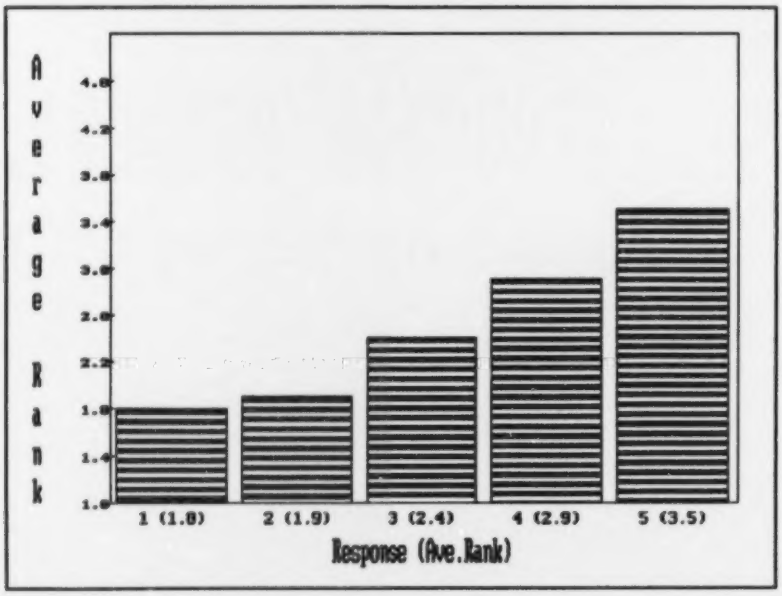
Rank Ordering of Responses to Section II, Question C: What do you think is the future of the relationship between Public and Separate school jurisdictions?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. It will be adversarial.	1
2	2. There will be competition over limited resources.	2
2	3. Relationships will remain cordial at the professional level--little change.	3
3	4. There will continue to be both systems with some increased cooperation.	4
3	5. They will become one system /amalgamation.	5

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.7

Average Rank Given to Responses on Section II, Question C: What do you think is the future of the relationship between Public an Separate school jurisdictions?



As indicated in the graph, the superintendents predicted that future relationships between Public and Separate school jurisdictions will be adversarial and competitive (responses 1 and 2). "Increased cooperation" was not considered to be as likely as adversity; it received an average rank of 2.9.

TABLE 4.8

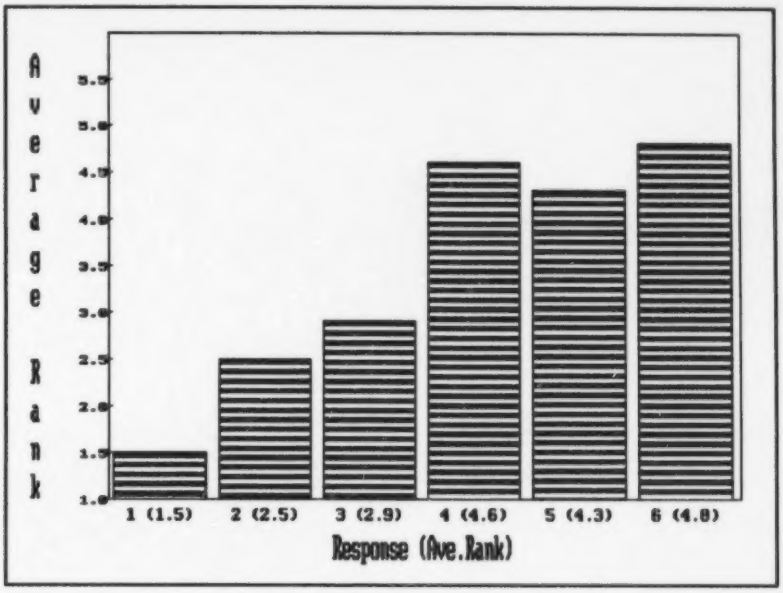
Rank Ordering of Responses to Section III, Question A: How do you think public education will be funded in the future?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. The same (or similar) to the way it is funded now.	1
2	2. Through some kind of income of sales tax.	2
3	3. "User pay" approach will increase (fewer tax payers are parents).	3
4	4. There will be an increase in funding at provincial and federal government levels.	5
5	5. Business share (taxes) will increase.	4
6	6. Through vouchers directly to parents.	6

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.8

Rank Ordering of Responses to Section III, Question A: How do you think public education will be funded in the future?



Most superintendents did not foresee significant changes in educational funding. Response 3 ("The same [or similar] to the way it is funded now") was ranked number one. Similar average ranks were given to both "some kind of tax" and "user pay approach" (responses 2 and 3) which placed these responses in second position. The last three responses received similar "last" place rankings (4.6, 4.3 and 4.8).

TABLE 4.9

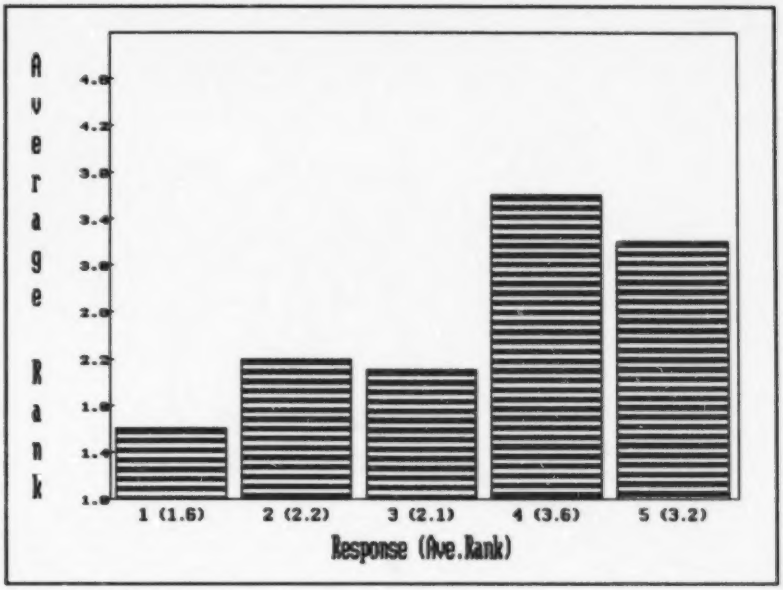
Rank Ordering of Responses to Section III, Question B: How do you think the responsibilities for education will be divided among the various levels of government?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. The national government will play a larger role (common curriculum, standards, and national direction).	1
2	2. There will be increasing responsibilities and involvement at the local level.	3
2	3. The provincial government will continue to play a significant or increasing role.	2
3	4. There will be a decrease in directional control at the local level.	5
3	5. The international community will provide incentives for performance, competition, and comparative studies.	4

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.9

Average Rank Given to Responses on Section III, Question B: How do you think the responsibilities for education will be divided among the various levels of government?



As indicated in the graph, the superintendents predicted that national involvement in education will increase. Increasing responsibilities at the local and provincial level were also forecasted. Decreasing control at the local level (response 4) was not considered to be as likely as increasing involvement (response 2).

TABLE 4.10

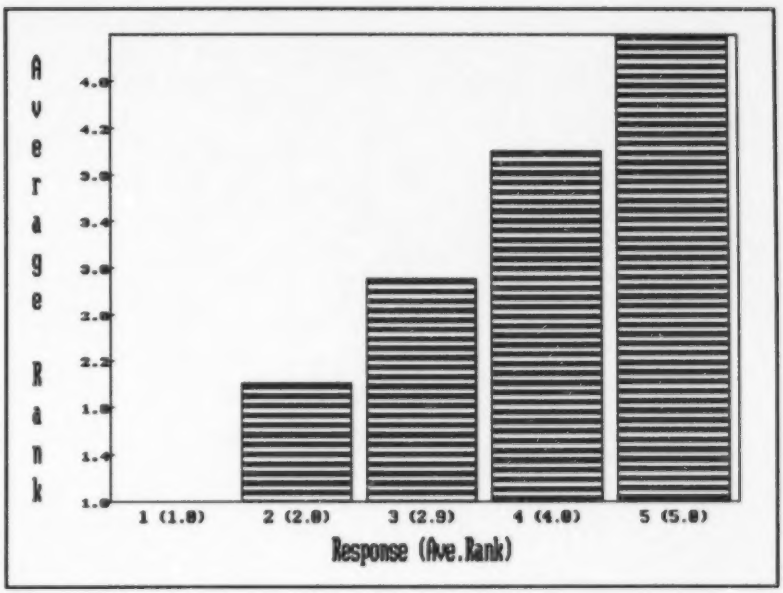
Rank Ordering of Responses to Section III, Question C: What do you think will be the balance of power between individuals or groups on the one hand and governing bodies on the other hand?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. Individuals and groups will have a growing influence on choice. They will have increasing power and will put greater demands on boards.	1
2	2. Governing bodies will have increasing power - certainly in the long term.	2
3	3. In the short term, boards and trustees will loose power.	3
4	4. There will be no change; governing bodies will "accept" advice from individuals and groups.	4
5	5. There will be shared power: 50 - 50.	5

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.10

Average Rank Given to Responses on Section III, Question C: What do you think will be the balance of power between individuals or groups on the one hand and governing bodies on the other hand?



Great consistency was demonstrated by the superintendents on this question. Not only were the original rankings unchanged, but on the Round Two Questionnaire, virtually every respondent ranked response 1 number one, response 2 number two and so on. With a perfect rank of one, all of the superintendents predicted that individuals and groups will put greater demands on boards in the future. Interestingly, all of the respondents ranked "shared power" fifth out of five.

TABLE 4.11

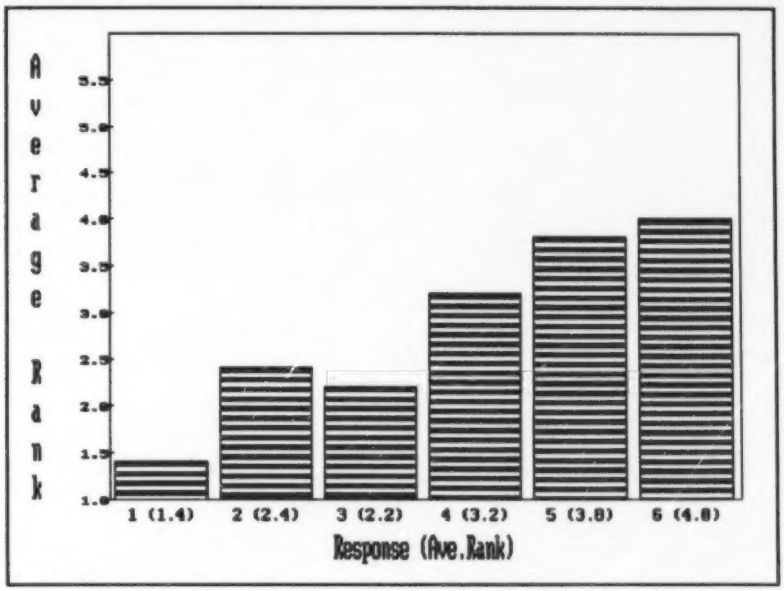
Rank Ordering of Responses to Section III, Question D: How do you think the role of system administrators will evolve in the future?

*Rd.One Rank	Response	**Rd.Two Rank
1	1. Their role will be more of facilitators - responsible for consultation, motivation and monitoring.	1
2	2. Their role will be more political.	3
2	3. They will need more leadership and planning skills, and they will need to be less of a manager.	2
3	4. They will need to be more involved in marketing their jurisdictions (changes, etc.).	4
4	5. There will be less of them as jurisdictions merge and schools close.	5
4	6. They will be less important, school administrators will be more responsive to parents.	6

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.11

Average Rank Given to Responses on Section III, Question D: How do you think the role of system administrators will evolve in the future?



Response 1 ("Their role will be more of facilitators - responsible for consultation, motivation and monitoring") was ranked number one by most superintendents. Greater leadership skills and a more a political role were ranked a close second and third respectively. The respondents did not foresee response 6 (system administrators will be less important) to be as likely as the other responses.

TABLE 4.12

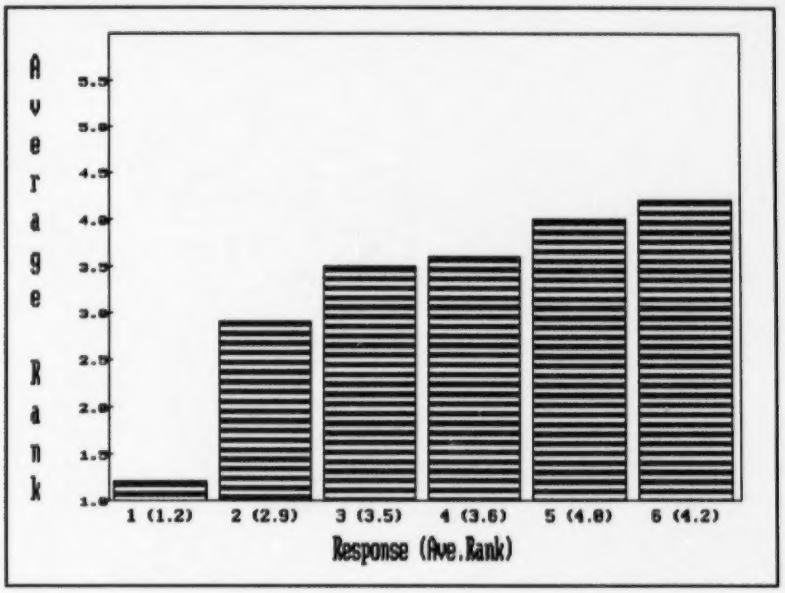
Rank Ordering of Responses to Section IV, Question A: What do you think the mandates, goals and objectives of the Public School system will be in the future?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. To develop students who have the skills, knowledge, and attitudes to be productively employed in a pluralistic society.	1
2	2. The current mandate and goals are fine (they will be the same or similar to the present).	2
3	3. To be inclusive; to take in all students, promoting tolerance and understanding.	3
4	4. To accommodate individual needs and interests.	4
5	5. To provide a good basic education.	5
5	6. To prepare students for change.	6

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.12

Average Rank Given to Responses on Section IV, Question A: What do you think the mandates, goals and objectives of the Public School system will be in the future?



As can be seen on the graph, almost all of the superintendents predicted that the primary future goal of the Public School System will be to develop students who have the necessary abilities to be productively employed in society. This response was ranked number one by most of the respondents, whereas each of the remaining five responses received a variety of ranks.

TABLE 4.13

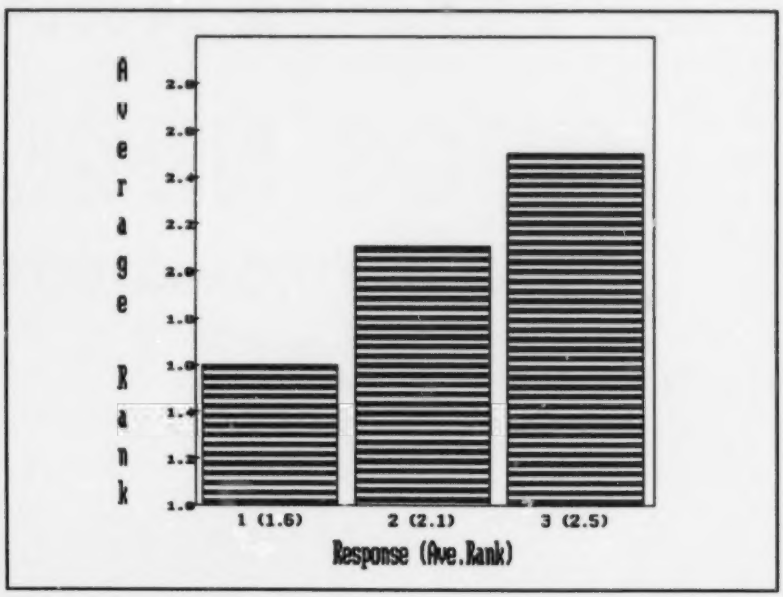
Rank Ordering of Responses to Question V, Question A.I: What, if any, changes do you think there will be in the education of teachers?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. The education of teachers will shift to mainly methodology: learning how to teach, diagnose, plan and program.	1
2	2. There will be more (or longer) practicums: more on the job training.	2
3	3. There will be pressure for accountability, recertification and updating. Certification will not be for life.	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.13

Average Rank Given to Responses on Section V, Question A.I: What, if any, changes do you think there will be in the education of teachers?



As indicated on the graph, the superintendents ranked response 1 ("The education of teachers will shift to mainly methodology: learning how to teach, diagnose, plan and program") first, ahead of "more on the job training" and "recertification". All three responses, however, were fairly close in rank.

TABLE 4.14

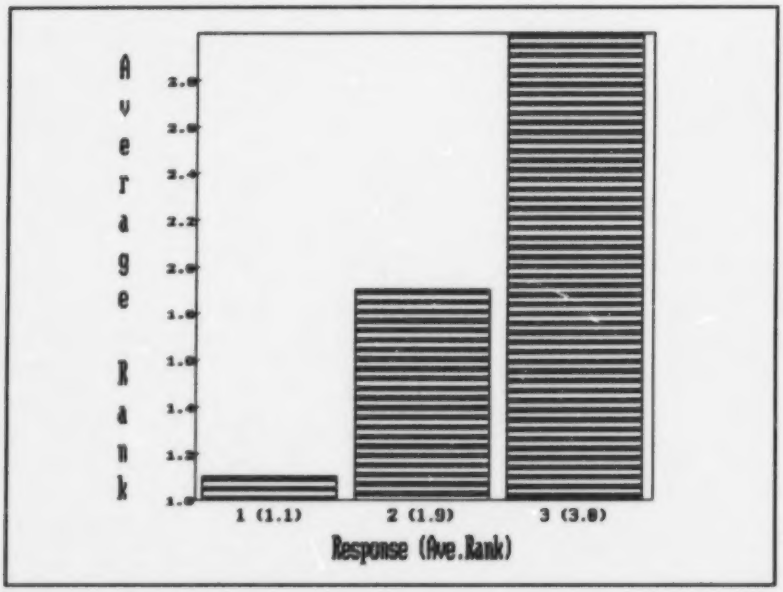
Rank Ordering of Responses to Section V, Question A.II: What, if any, changes do you think there will be in the role of the teacher?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. The teachers role will be more of a facilitator, evaluator and diagnostician, not a dispenser of information.	1
2	2. There will be expanded use of paraprofessional support (possibly less teachers).	2
3	3. Teachers will be more like counsellors, guides and pseudo parents, understanding human psychology.	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.14

Average Rank Given to Responses on Section V, Question A.II: What, if any, changes do you think there will be in the role of the teacher?



There was great agreement among the superintendents on this question (all but two of the respondents ranked response 1 first and response 2 second, and everyone ranked response 3 third). The superintendents clearly predicted that, in the future, the role of the teacher will be more of a facilitator, not a knowledge dispenser.

TABLE 4.15

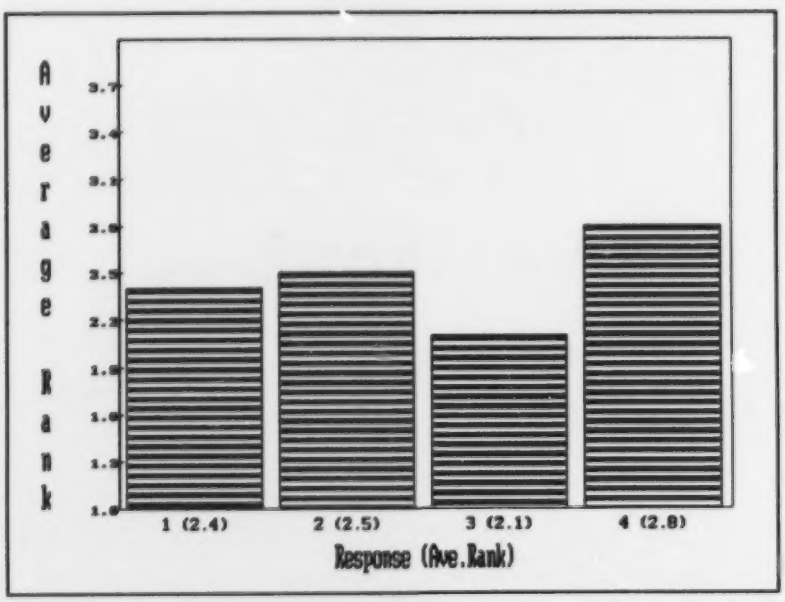
Rank Ordering of Responses to Section V, Question B.I: What courses do you think will be offered in the future?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. There will be no significant changes in academic courses.	2
2	2. There will be more courses teaching skills specific to the business community.	3
3	3. There will be more courses in technology; using computers in all subjects will be required.	1
4	4. There will be more emphasis on interpersonal and communication skills.	4

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.15

Average Rank Given to Responses on Section V, Question B.I: What courses do you think will be offered in the future?



There was little agreement among the superintendents on this question. Response 1, for example, was ranked first by 14 of the 31 respondents, and fourth by 11 respondents (see Appendix F). Response 3 (computers will be used in all subjects) was ranked first by only 8 respondents, but no one ranked it fourth. Consequently, it received a first place Round Two rank.

TABLE 4.16

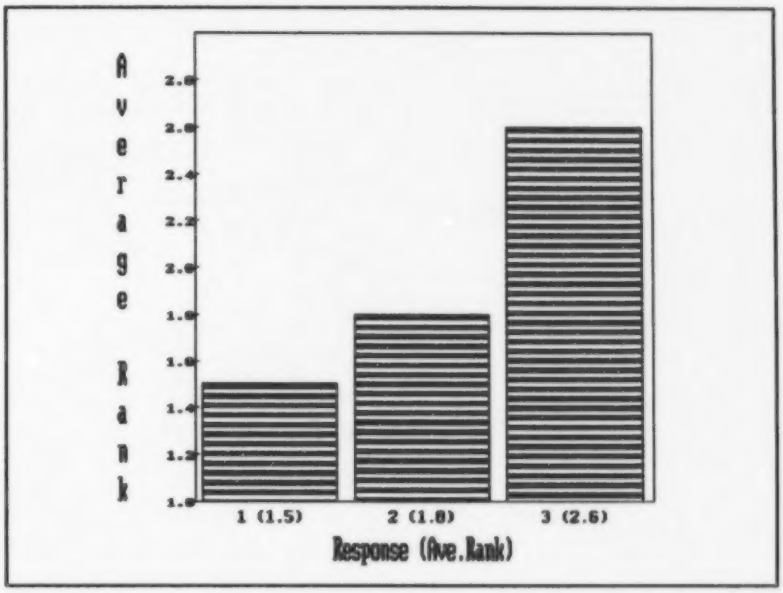
Rank Ordering of Responses to Section V, Question B.II: How might this (what courses will be offered) be decided upon and by whom?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. Governments will make the decisions.	1
2	2. Industry, advanced education and the individual will play an increasing role in deciding what is taught.	2
3	3. Decisions will be consumer driven.	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.16

Average Rank Given to Responses on Section V, Question B.II: How might this (what courses will be offered) be decided upon and by whom?



The superintendents were consistent from Round One to Round Two on this question. Governments were ranked as the primary players in deciding what courses will be offered in the future. However, industry, advanced education and the individual were ranked a very close second. A consumer driven decision-making process was not seen as likely as the above. Most respondents ranked it third.

TABLE 4.17

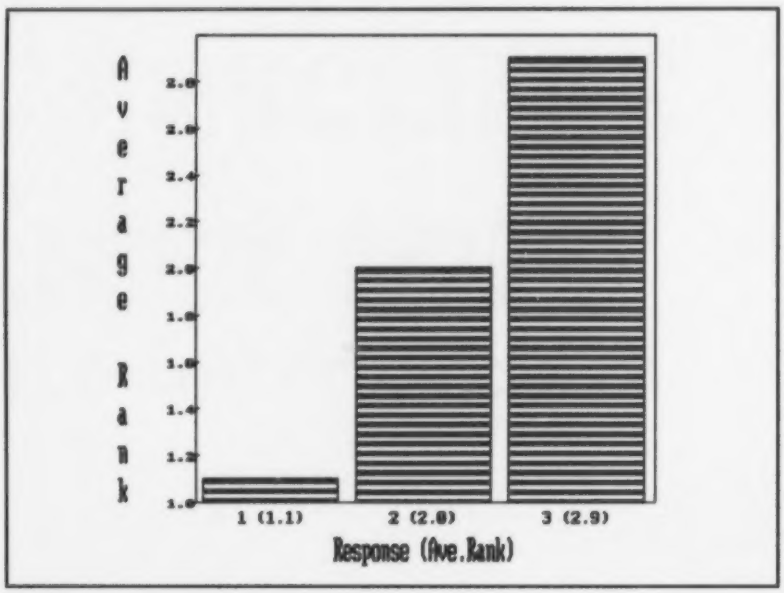
Rank Ordering of Responses to Section V, Question B.III: What kind of teaching strategies might be in use?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. Emphasis will be to teach students how to access and use information.	1
2	2. Teaching strategies will be more individualized.	2
3	3. There will be more teamwork in teaching (counsellors, social workers, healthcare, etc.).	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.17

Average Rank Given to Responses on Section V, Question B.III: What kind of teaching strategies might be in use?



As can be seen in the graph, the superintendents showed great agreement on this question. All but two of

them ranked response 1 first, and response 2 second, only one respondent did not rank response 3 third. Clearly, the superintendents predicted that there will be an emphasis on teaching students how to access information.

TABLE 4.18

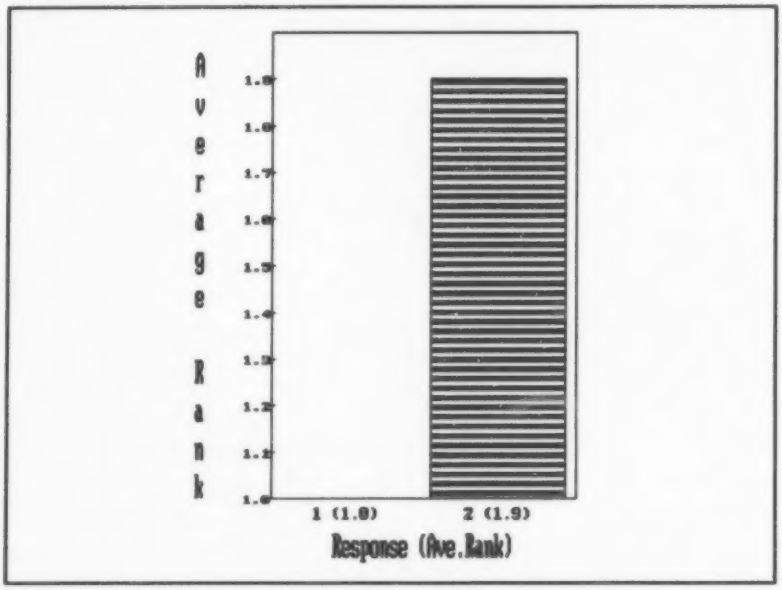
Rank Ordering of Responses to Section V, Question B.IV: What might be the role of technology?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. Technology will play a greater role in the delivery of instruction. It will have an increased role in the classroom. Children will be computer literate at an early age.	1
1	2. Technology will have limited use in the classroom because teachers are suspicious of it.	2

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.18

Average Rank Given to Responses on Section V, Question B.IV: What might be the role of technology?



Every respondent ranked response 1 (technology will play a greater role in the classroom) number 1. The idea that technology will have limited use in the classroom was strongly denounced by most superintendents (one respondent ranked it 100).

TABLE 4.19

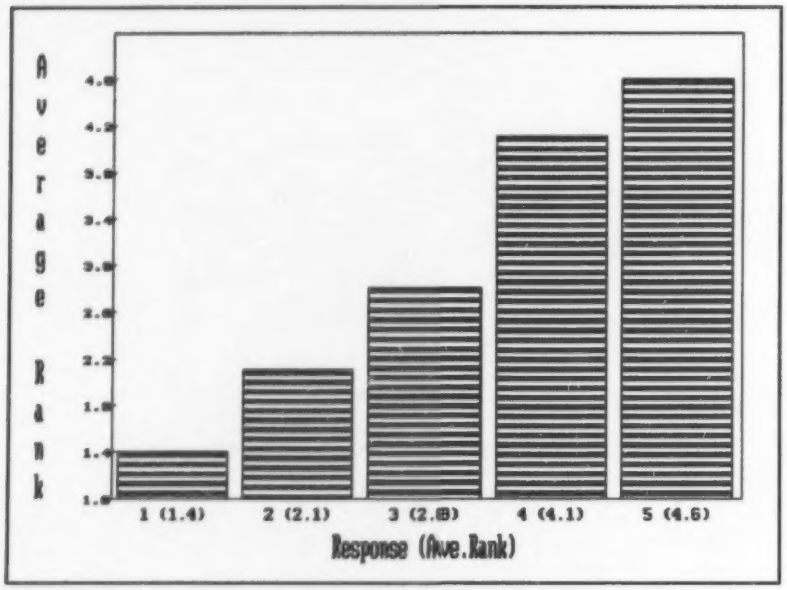
Rank Ordering of Responses to Section VI, Question A: Comment of what you think will be the future of the traditional school building.

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. We will always have a school building; a base to work from. It will be very accessible to the public and its links with other businesses will grow.	1
2	2. There will be more provisions for technology: schools will be "wired" to access information.	2
3	3. Schools will have a far more flexible space design to accommodate individuals and small and large groups. Also, to "open" thoughts.	3
4	4. There will be few major building changes (no funds).	4
5	5. Schools will be the centre of learning and recreation for the entire community - child to senior. The building will function all day, all year.	5

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.19

Rank Ordering of Responses to Section VI, Question A: Comment on what you think will be the future of the traditional school building.



The superintendents were once again consistent from Round 1 to Round 2. Most of them predicted (i.e. ranked first) that the school building will remain in the future, but it will be more accessible to the public and have increasing links with business.

TABLE 4.20

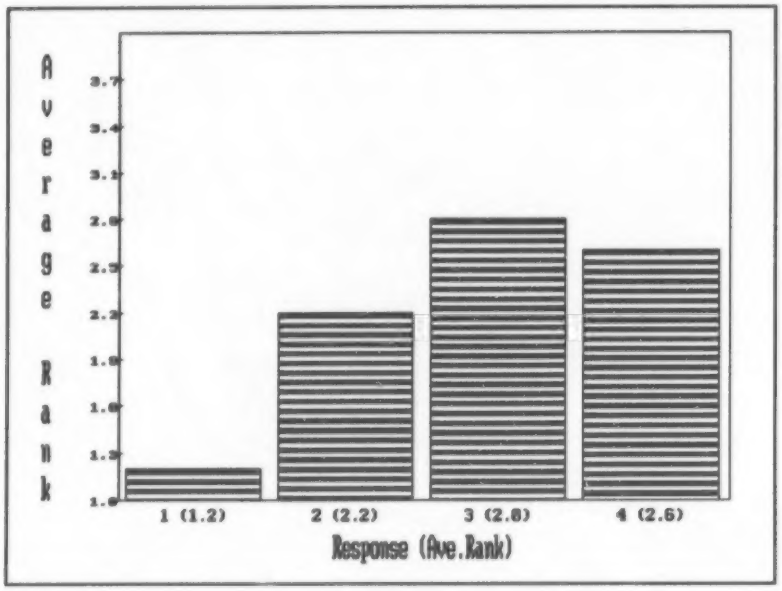
Rank Ordering of Responses to Section VIII, Question A: Comment on the future of the economy and the social\political situation, and the consequences for education.

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. We must face economic realities and temper our demands. Education will survive, but it will become more functional; more "bottom-line".	1
2	2. The public will not tolerate inequities and the tax drain for social services and education. Some new tax system must be developed to support education.	2
2	3. The economy will improve and education will come out of the turmoil O.K.	4
3	4. Limited funds will mean less allocated for education. However, there will still be demands for effective use of "funds".	3

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.20

Average Rank Given to Responses on Section VIII, Question A: Comment on the future of the economy and the social\political situation, and the consequences for education.



The superintendents did not predict positive economic implications for education: "The economy will improve and education will come out of the turmoil O.K." was ranked fourth out of four. Respondents did, however, suggest that education will survive by becoming "leaner and meaner" (response 1).

TABLE 4.21

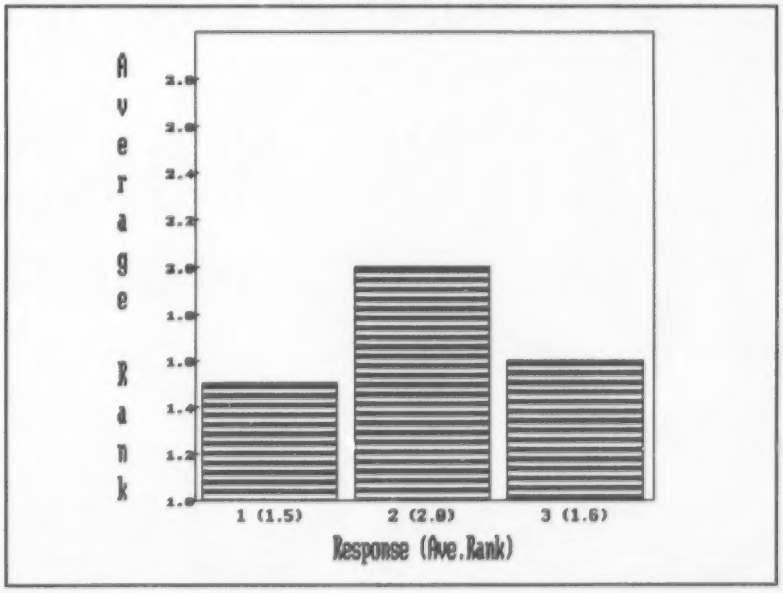
Rank Ordering of Responses to Section IX, Question A: What do you imagine may have a major impact on public school education and is not being properly weighed by most people concerned about education?

*Rd.One Rank	Responses	**Rd.Two Rank
1	1. The need (and cost) for schools to stay technologically relevant and competitive.	1
1	2. The expansion of private schools.	3
2	3. An increase in the number of dysfunctional families and behaviour problem students.	2

*Rank order based on response frequency.
**Rank order based on average rank given to the response.

FIGURE 4.21

Average Rank Given to Responses on Section IX, Question A: What do you imagine may have a major impact on public school education and is not being properly weighed by most people concerned about education.



As indicated on the graph, the superintendents predicted the need for schools to stay technologically relevant and an increase in the number of behaviour problem students (responses 1 and 3) to be about equally impactful on public education in the future. Respondents were split on response 2, "The expansion of private schools" which received 11 first place, 7 second place and 11 third place rankings.

Definitions

On the Round One Questionnaire, the superintendents were asked what meaning twelve educational terms would have in the future. The list of terms included: trustees, local autonomy, grade, testing, home schooling, mainstreaming, separate school districts, compulsory attendance, retention, teacher, private schooling and special education. The most frequently cited definitions from Round One were presented on the Round Two Questionnaire and the superintendents were asked to agree or disagree with the definitions. This information is presented in Table 4.22.

TABLE 4.22

Future Definitions of Educational Terms

Definition	Agree	Disagree	Total
Trustees: meaning will remain the same.	27	4	31
Trustees: will be responsible for local policy and implementation.	28	3	31
Local Autonomy: there will be less local autonomy.	14	15	29
Local Autonomy: meaning will remain the same.	19	10	29
Local Autonomy: will be confined to school councils.	12	18	30
Grade: this term will disappear	14	16	30
Grade: meaning will probably stay as is.	13	12	25
Testing: meaning will remain the same.	15	14	29
Testing: will be more ongoing, with greater sophistication.	25	5	30
Testing: will be tied more closely to external standards.	24	7	31
Home Schooling: will increase in the future.	21	10	31
Home Schooling: will remain the same.	11	19	30
Mainstreaming: will have little meaning in the future as all students will progress at their own rate.	17	13	30
Mainstreaming: meaning will remain the same.	15	15	30
Separate School Districts: will stay unchanged.	21	9	29

TABLE 4.22 (cont'd)

Future Definitions of Educational Terms

Definitions	Agree	Disagree	Total
Separate School Districts: will stay unchanged.	21	9	29
Separate School Districts: will decrease, or may disappear as they are deemed unnecessary.	11	19	30
Compulsory Attendance: this concept will no longer exist.	15	16	31
Retention: this concept will disappear (will give way to "continuous learning" idea).	22	9	31
Retention: meaning will remain the same	10	18	28
Teacher: will remain the same.	5	24	29
Teacher: will come to mean "facilitator".	28	2	30
Private Schooling: will remain the same.	15	16	31
Private Schooling: will flourish (especially under a voucher program).	23	7	30
Private Schooling: will take on specialist (elitist, job training) roles rather than religiosity.	23	4	27
Special Education: will have little meaning as all children will have "special" education.	14	16	30
Special Education: will remain the same.	16	13	29
Special Education: will find it difficult to get funding (to exist).	18	12	30

Trustees, testing, teacher and private schooling received the greatest degree of consensus. The superintendents concurred that trustees will be

responsible for local policy, that testing will be more ongoing and tied more closely to external standards, that teacher will come to mean "facilitator", and that private schooling will expand and take on specialist rather than religious roles. The superintendents did not reach great agreement for any of the other terms.

Chapter 5

Discussion

The main goal of this study was to examine what Alberta Public School Superintendents forecast for the future in seven main areas of education. It was hoped that the results of the study would illuminate some possible futures in Alberta education in order to facilitate educational planning.

This chapter contains a discussion of the results of the seven areas investigated, implications of the study for planning tomorrow's education system and suggestions for future research. Each of the seven main areas examined in the study will be discussed in turn.

Attitudes Toward and Education of Students

In general, the superintendents surveyed in this study predicted that the attitudes and expectations of adults toward students in the future will be stern, demanding and reflective of society's economic concerns. That is, the respondents indicated that adults will view students (presumably older students) as responsible for themselves. The superintendents did not believe that adults will see students as incapable beings, in need of pampering. Rather,

the majority of the superintendents' statements implied that adults will have increasing expectations of students in terms of both performance and self-determinism. The top two responses to the question, "What expectations are adults likely to have of students?" (section I, question A. II) for example, were "There will be greater expectations for performance" and "Students will be expected to be actively involved in planning their own futures." This same forecast was cited by several authors in the educational futures literature. Lewis (1981) for example, submits that, "the old paradigm made the teacher responsible for the student's learning, with the student obliged to learn. The new paradigm of a learning society *shifts the responsibility for learning to the learner...*(original emphasis, cited in Benjamin, 1989, pp. 66-67).

Economic concerns were evidenced in numerous statements. For example, recognizing that this is an aging society (Alberta Education, 1989), respondents predicted that adults will view students and seniors as rivals in competition for limited government services - namely funds. This was the most frequent "attitude" expressed in Round One (section 1, question A) and also the response with the best average rank in Round Two. That education was predicted to become "leaner and meaner" reflects both the increase in performance expectations and the thriftiness demanded by a struggling economy.

Students themselves were seen by the superintendents to be driven primarily by economic considerations. When asked, "What do you think students will expect from their education system in the future?" (section I, question C), 25 out of the 31 respondents ranked, "To prepare them for a variety of career options, economic success or further studies" number one.

Structure of the Education System in General

In analyzing the respondents' statements regarding various structural and organizational futures for education, one phrase clearly summarizes the views of the superintendents: at all levels of education, there will be increasing involvement with business and the community.

People will attend school for a while, then work, then return to school, and so on, with transitional ease. Students will receive parts of their instruction outside of the school building, perhaps in the offices or laboratories of the educator. Within the school itself, various professionals (as well as nonprofessionals) will provide educational programs. These ideas were forecasted by at least 26 of the 31 respondents to Round Two. A typical response to the question, "What do you think the education system will look like in the future?" (section II, question A) was, "I expect there will be greater involvement of

business and industry at the higher grade levels in job preparation fields of the curriculum...." One superintendent expressed the same idea to a greater degree, "To contemplate even remotely the need for schools as facilities to house students in the next decade is myopic. Industry, business and the community have the best opportunity to describe the learning centers in the next century."

The increasing involvement of business with education was further illustrated by the superintendents' responses to the question, "What would you identify as the major groups concerned about education...?" (section II, question B). Business\Industry and Employers ranked second, behind Parents.

The superintendents' forecasts regarding ties with business are similar to those suggested by Dede (1989), Dillon and Wright (1980), Naisbitt (1990) and Sussman (1986). These authors also predicted education in the next century to be more of a business\community affair.

The forecasts made by respondents in this survey regarding the educational implications of technology (organizational or otherwise) are also very much in line with the predictions made by many authors cited in the literature. Dede (1989), Hathaway (1990), LeTourneau (1987) and others all referred to technology's ability to delocalize schools through the use of microcomputers. They

also suggested that computers, videotapes and whatever else may be developed, will replace the repetitive teacher tasks (e.g. lecturing) leaving teachers more time for discussion and individualized lesson planning. Every superintendent who responded to the Round Two Questionnaire predicted an increase in the use of technology. Typical responses to the question, "What might be the role of technology?" (section V, question B) included, [technology] will take over many of the traditional teacher roles (managing of data, rehearsing information, etc.)" and "'Classes' or tutorials will be able to be conducted anywhere in the world with two way interactive technology."

While technology's growing influence was generally considered by respondents to be a positive feature in our educational future, the future of the relationship between Public and Separate school jurisdictions did not fare so well. An unfriendly tone prevailed as superintendents predicted adversarial, competitive relations to be most likely.

Governance and Finance of Education

In general, funding for public education in the future was predicted by the superintendents to remain largely unchanged. This seemed to be the probable, and not the desirable future, in the eyes of superintendents. For

example, while some respondents foresaw a new kind of tax or a "user pay" approach to be desirable, the status quo won over changes. To the question, "How do you think public education will be funded in the future?", one respondent stated,

> Very much as now. No party has the political stamina to introduce the kind of changes necessary. The property tax is outdated, even recessive. It must be replaced with a form of taxation, direct or indirect, that removes the present inequities.

More government involvement, particularly at the national level, but at the local and provincial levels as well, was predicted by the superintendents. The increase at the national level appeared to arise from a perceived need for national curriculum standards and a "national direction." It was the impression of the writer that many superintendents implied in their responses that international competition is the driving force behind a national direction to stay competitive. Several respondents clearly stated this opinion. For example, one individual wrote:

> Education has become more and more a national issue. Competition in the real world has forced the national government to increase its focus on what's happening to our ability as a nation in terms of trade, competition and world leadership. It appears that nationalistic and international interest will spur education and its direction in the coming decades.

Bashutski (1990) also referred to a nationalistic or Canadian view of education.

The question regarding the balance of power between

individuals or groups on the one hand and governing bodies of the other hand (section III, question C) produced a forecast with 100 percent consensus. All of the superintendents surveyed in Round Two predicted that individuals and groups will have increasing influence and power as they put increasing demands on boards. The general feeling surrounding this prediction, however, seemed to be negative. According to the respondents, the growing power of special interest groups is an unfortunate certainty. This undesired scenario in the future governance of education was illustrated in the following comments:

> I believe that various interest groups are going to exert increasing pressure on local boards. These groups will use whatever means are at their disposal and go to whatever lengths necessary to achieve their objectives. This will make the job of the local trustees more difficult.
>
> Special interest groups (e.g. seniors and non-children families) will make life difficult for governing bodies attempting to provide finance for an expanding curriculum.
>
> We have to be very careful of power being assigned to individuals and groups who are not directly accountable to the public.

The increasing power of "pressure" groups was also noted in Bashutski (1990) and Wilson (1989).

In terms of the future role of system administrators, it was suggested by the respondents that facilitating (including consulting, motivating and monitoring), leading and planning will be the skills most required in the future (section III, question D). In examining how superintendents

viewed the future, Douglas (1989) asked participants in his study to list five issues they believed would emerge in the next ten years and be important to the role of superintendent. Similar to the respondents in this study, Douglas found his participants to be concerned about, "...helping staff members renew themselves and grow professionally [facilitating and motivating], and long range or strategic planning" (p. 9).

Goals and Objectives of Public Education

When asked what the goals and objectives of the Public School System will be in the future (section IV, question A), nearly every superintendent (28 out of 31) ranked, "To develop students who have the skills, knowledge, and attitudes to be productively employed in a pluralistic society" number one. Interestingly, while this goal appears first on the list developed by the respondents in the present study, it appears third (out of four) on a list of goals proposed by former United States Commissioner of Education, Ernest L. Boyer (Cornish, 1986), and seventh on the list of ten educational objectives developed by The Committee on Research and Theory of the Association for Supervision and Curriculum Development (Shane & Tabler, 1981). While to be inclusive, to accommodate individual need, to provide basic skills and to prepare students for

change were on the list of goals predicted the superintendents, productive employment ranked first. Economic considerations prevailed once again.

Curriculum and Instruction

As was previously stated, knowledge increases exponentially in today's world (Henchey, 1986). Teachers can not possibly attempt to master and lecture about a given content. Rather, they will need to have sophisticated planning, programming and technical skills to develop individual programs and facilitate their students' quest for relevant information (Benjamin, 1989). In other words, teachers will need to help students learn how to access particular information that will be useful to their individual educational programs (Caissy, 1980; LeTourneau, 1987; Sussman, 1986).

Respondents in this study support the literature. In terms of the role of the teacher, the superintendents predicted that, "the teachers' role will be more of a facilitator, evaluator and diagnostician, not a dispenser of information" (section V, question A.II). Respondents also forecasted expanded use of paraprofessional support in teaching, which is consistent with the idea that business and the community will be more involved with education (likely offering their own educational programs) presented

by Naisbitt (1990) and Shane (1989) and by the superintendents themselves on section II, question A of this survey.

Regarding the education of teachers in the future, the respondents' forecasts were consistent with the predictions they made about the role of the teacher. That is, in light of the teachers' role as facilitators, the superintendents suggested that teacher education "... will shift to mainly methodology: learning how to teach, diagnose,plan and program" (section V, question A.II). In addition, respondents foresaw more (or longer) practicums arising in the future, as well as a need for updating and recertification. Administrators in a study conducted by Dillon and Wright (1980) expressed similar views.

Teaching strategies was yet another aspect of education where respondents' predictions were consistent with the literature. "Emphasis will be to teach students how to access and use information" was the first ranked response to the survey item regarding teaching strategies. "Teaching strategies will be more individualized" and "There will be more teamwork in teaching" were also predicted, although less frequently.

Technology's impact on the future of education was outlined in chapter 2. It was evident that virtually every futurist and educator cited in the literature predicted the revolutionizing of education through technology. Computers

will be commonplace: teaching lessons to students at the appropriate pace, managing teachers' records, providing relevant information to the user, and even projecting virtual realities for a maximum "experiential learning" effect (Sussman, 1986; Dede, 1989). While on Round One of this study, technology was predicted by two superintendents to have limited use in the classrooms of the future, every respondent to Round Two suggested that, "Technology will play a greater role in the delivery of instruction. It will have an increased role in the classroom. Children will be computer literate at an early age."

According to the literature and the results of this study, an increase in technology in education is not so much a prediction as an eventuality.

In terms of what courses will be offered in the future (section V, question B.I), the respondents in this study came up with four predictions, three of which also occurred in the literature. For example, the superintendents suggested that more courses will teach skills specific to the business community (Benjamin, 1989); that there will be more courses in technology, with computers used in every subject (Dede, 1989; Hathaway, 1990; Henchey, 1986); and that more emphasis will be placed on interpersonal and communication skills (Benjamin, 1989; Caissy, 1986; Naisbitt, 1990). The fourth prediction, "There will be no significant changes in academic courses" was proposed by 14

out of 31 respondents. This forecast was not found in the educational futures literature reviewed for this study.

In predicting who will decide what courses will be included in the curriculum of the future, participants ranked "governments" first and "industry, advanced education and the individual" a close second. These responses are congruent with the superintendents' beliefs regarding a "national direction" for education and the increasing involvement of the business community with education.

Facilities

The future of the traditional school building appears to be safe, at least in the short term. Most of the superintendents surveyed in the present study proposed that, "We will always have a school building; a base to work from." Even the most radical visionaries for educational transformation are modest in their predictions regarding the sacred "school house". Glines and Long (1992) wrote, "in the 1990s communities may not yet be ready to eliminate schools altogether...." Respondents of this study did, however, suggest that, "it [school] will be very accessible to the public and its links with other businesses will grow," and that "schools will be 'wired' to access information." These views were also purported by

McInerney (1987) who wrote:

> Over the short run, schooling will probably not change very much, at least in its outward form, and thus school buildings will probably not change except in ways to enhance economic efficiency and to facilitate technology, such as hard wiring for computer networks (p. 25).

Political and Economic Implications

Alberta superintendents predicted that a struggling economy would result in a "bare-bones" approach to education. When asked to comment on the economy and the consequences for education (section VIII, question A), the response, "We must face economic realities and temper our demands. Education will survive, but it will become more functional; more 'bottom-line'" was ranked number one by 24 out of 31 participants. In light of the 1993/1994 funding freeze (0 percent increase) for education announced by the Alberta Provincial Government on March 2, 1993, the superintendents appear to have been quite accurate in their forecast. As a whole, respondents seemed to avoid making political comments of any kind.

Surprises

Respondents were asked, "What do you imagine may have a major impact on public school education and is not being properly weighed by most people concerned about education?"

Consistent with their economic concerns, participants predicted that the cost of staying technologically competitive would have an underestimated impact on education. They also predicted that an increasing number of dysfunctional families and behaviour problem students (perhaps also the result of an ailing economy) would have a major impact. In a society where technological literacy is becoming a prerequisite for success and a sick economy leaves little money for education, the superintendents' concerns seem warranted. Indeed, how will schools stay abreast with technology with no fiscal means?

Conclusions and Implications

The predictions made by the Alberta Public School Superintendents surveyed in this study regarding the future of education were largely consistent with those made by published futurists and educators. Whether the respondents were influenced by the literature or came to the same conclusions as a result of their own experiences is unknown. What was unique to the respondents in this study was the prevalence of economic themes in their responses. This is likely a reflection of the less than bright economic climate Alberta has been experiencing over recent years. Respondents to this study, as well as most of the literature on the future of education, suggested that in

light of the probable future of society - that is, a globally interdependent, technologically advanced, rapidly changing, knowledge explosive, multicultural community - education will need to change in order to produce people ready to live and work comfortably in society. Education will need to promote active learning, personal autonomy, higher cognitive skills, work experience, lifelong learning, interpersonal communication skills, information access and evaluation skills, learning through technology and flexibility in adapting to change.

Notable in these results was that nothing inspiring, nothing visionary was offered. One respondent did assert the following:

> I am astounded at the conservative ranking of the overall change process. These 'future changes' are already happening. I knew we were an inherently cautious group, but we are leaders.... It looks like we have a number of educational leaders in the province who've become 'ostrichsized'.

The remaining superintendents, however, provided predictions that have been made numerous times by numerous authors in numerous sources. Likely this lack of vision was not so much due to an "imagination lack" in the sample, but was the result of a combination of factors.

Firstly, as was mentioned in chapter 1, the modified Delphi method (the structuring of questions into seven topic areas) utilized in this study may have guided the content to such an extent that visionary responses were discouraged. Secondly, the volunteer sample was 96% male

and 69% of respondents were between the ages of 45 and 54. The opinions expressed in this study could thus be described as those of male superintendents in the 45 to 54 year age cohort. A different sample composition may have produced different results. Thirdly, the respondents answered the questionnaires in 1992. Canada's socio/political situation, the cutbacks occurring in all fields - especially education, and the generally grim economic picture surely have influenced everyone, those responsible to governing boards particularly. To expect inspired and visionary predictions during such times may be unrealistic. Furthermore, it would seem that funding restraints necessitate that superintendents concentrate their efforts on doing the best with what resources they have. Little energy is left for looking to the future with vision.

Future Research

George Bernard Shaw stated, "we are made wise not by our recollections of the past, but by the responsibility we take for our future" (cited in Miller, 1981). Taking responsibility means future studies in education need to be ongoing and evaluated. As was stated previously, it is the intention of the Public School Boards' Association of Alberta to continue investigating what other groups

concerned about education forecast for its future. This is an admirable intention and one that other researchers should consider. The rapid change rate in society has been discussed. Clearly, in order to stay abreast with progress we need to respond proactively through thoughtful speculation, rather than backpeddling to restructure outdated methods (which, of course, requires considerable funds). Furthermore, future studies need to be evaluated in an attempt to improve: 1) the methods for generating forecasts, and 2) the accuracy of the forecasts. The better we get at making predictions, the better we will be at spending our dollars in the most essential places. Also, in light of the guiding of responses that may have occurred in this study (due to the structuring of the questionnaires into seven main headings) it may be useful to further investigate the superintendents with a more "open ended" format. That is, qualitative studies where a small number of superintendents are asked a few very general, open ended questions and encouraged to respond freely may yield some new and inspired ideas. Moreover, the data gathered for this study could be analyzed from different perspectives in an attempt to gain new insight. For example, the influence of economic times on forecasts regarding the future of education could be studied more indepthly. Also, the visionary ability of the different age cohorts could be analyzed.

With enough prudence and foresight, that is, using future studies to take our best guess, we have a greater chance of shaping our future and designing an education system that will not become prematurely obsolete.

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Appendix A

Letter of Transmittal, Round One

June 25,1992

Dear _____:

Re: A Delphic Survey for Public School Superintendents

A Delphic Survey is intended for people who are acknowledged by their peers to be experienced, skilled and competent in a field. An additional criteria is that the respondents should have a demonstrated commitment to the improvement of the field. The final criteria is that respondents should have demonstrated mastery within the field. The expectation is that such people spend at least part of their time considering the future of the field, and that their contemplations are conditioned by a reasonable sense of what is both desirable and possible given the history and the current state of the field, and given the setting (or environment).

The Public School Boards' Association of Alberta intends to develop a sense of the future of Public School education in Alberta. We want you to be involved in this process. A series of questions accompanies this letter, and ample space is provided for your responses. Please take as much time as needed (we estimate approximately 40 minutes) to respond thoughtfully to these questions. Please mail your responses back to the Association in the stamped, addressed envelope provided, by August 20, 1992.

We will compile and analyze all responses and mail a summary of the responses and analysis to you, along with a second questionnaire. The second questionnaire is intended to give you the opportunity to reflect on your own original thinking in light of the Round One responses made by other Superintendents. Completion of the Round Two questionnaire will also take

about 40 minutes of your time, and again, please return your responses to us. We will compile and analyze the Round Two responses and you will receive a copy of the results. Please understand that for our data to be useful, your involvement in Round One necessitates your involvement in Round Two.

Throughout this process, remember that there are no right or wrong answers. Your experience and perceptions are unique and valid. Your anticipation of the future will be of invaluable assistance to us.

The participation of your colleagues will contribute to an analysis which will be invaluable to you.

Thank you for your anticipated assistance.

Yours truly,

Public School Boards' Association of Alberta

David King
Executive Director

Enc

P.S. You will be interested to know that we intend to conduct a similar survey of:
school students in 1993,
veteran trustees in 1994,
school based administrators and classroom teachers in 1995,
and key community leaders concerned about education in 1996.
(Then it will be back to the Superintendents in 1997.)

Appendix B

Round One Questionnaire

1992 DELPHIC SURVEY FOR
THE PUBLIC SCHOOL BOARDS' ASSOCIATION OF ALBERTA

Superintendents: Round I

In responding to each question we ask you to bear in mind the following:

Try to distinguish between developments in the short term (within the next 10 years or by the year 2002) and the intermediate term (within 10 to 25 years or by the year 2017);

Try to suggest whether you are describing something about which you personally feel strongly, or something about which you feel a consensus or a trend is developing among others in the community; and,

Try to suggest whether you are describing something that will affect a few, but perhaps in a significant way, or many. Please suggest who will be affected.

Section I: The Student

A. What is likely to be the attitude of adults towards students in the future? What expectations are adults likely to have of students?

B. How might the attitudes and expectations described in part A influence the education of students?

C. What do you think students will expect from their education system in the future?

Section II: Education in General

A. What do you think the education system will look like in the future? What might be the principle component parts, who might be the principle participants, and what might be the relationship of each of these to others?

B. What would you identify as the major groups concerned about education and what expectations do you think they will have of the system?

C. What do you think is the future of the relationship between Public School jurisdictions and Separate School districts?

Section III: Governance and Finance of Education

A. How do you think public education will be funded in the future?

B. How do you think the responsibilities for education will be divided among the various levels of government (the local, provincial, and national governments, and the international community)?

C. What do you think will be the balance of power between individuals or groups on the one hand and governing bodies (i.e. Board of Trustees) on the other hand?

D. How do you think the role of system administrators will evolve in the future?

Section IV: Purpose, Goals and Objectives of Public Education

A. What do you think the mandates, goals and objectives of the Public School system will be in the future?

Section V: Curriculum and Instruction

A. What, if any, changes do you think there will be in the education of teachers and the role of the teacher?

B. What courses do you think will be offered in the future? How might this be decided upon and by whom? What kind of teaching strategies might be in use? What might be the role of technology?

Section VI: Facilities

A. Comment on what you think will be the future of the traditional school building?

Section VII: The Future as Seen Through our Vocabulary

A. Are the following words likely to be part of our vocabulary when talking about education in the future? If so, what meaning will they have?

- trustees
- local autonomy
- grade
- testing
- home schooling
- mainstreaming
- separate school districts
- compulsory attendance
- retention
- teacher
- private schooling
- special education

B. Are there any other words in current use which may have a markedly different meaning in the future? Please comment.

C. Are there any new ideas which may emerge and require new labels (vocabulary)? If so, suggest your own inventive labels and describe the ideas they will represent?

Section VIII: The Environment in Alberta

A. Comment on the future of the economy and the social/political situation, and the consequences for education?

Section IX: Surprises

A. What do you imagine may have a major impact on public school education and is not being properly weighed by most people concerned about education?

Section X: Demographics

1. Name:

_____

2. School Jurisdiction:

County _____
District _____
Division _____

3. Age:

25 - 34 _____
35 - 44 _____
45 - 54 _____
55 - 64 _____
65 + _____

4. Gender:

Male _____
Female _____

5. Education:

Undergraduate Degree(s) - including major or specialization

_____

_____

Graduate Degree(s) - including specialization

_____

Post-graduate Work - including specialization

_____

Other achievements of direct value to your current position

6. Briefly outline your work experience

7. How long have you been a superintendent?

8. Briefly describe your school system?

9. What is the size of the community your school system serves?

10. What sources of information have influenced your responses to this questionnaire?

11. Identify your personal interests not directly related to your current position.

Appendix C

Round One Follow-up Letter

July 24, 1992

Dear _____:

Re: A Delphic Survey for Public School Superintendents

On June 26, 1992, the Public School Boards' Association of Alberta sent a questionnaire regarding the future of Public School education in Alberta to all 92 Public School Superintendents. This letter is intended to make certain that each individual did in indeed receive the survey, and that no oversight on our part has occurred.

A Delphic Survey is intended for people who are acknowledged by their peers to be experienced, skilled and competent in a field. We are thus particularly desirous of obtaining your responses because of your experience and expertise in various areas of education.

In the event we missed you, please contact our office at 479-8080 to receive your copy of the questionnaire. If we have not heard from you by August 10, 1992, we will be calling to once again make certain all questionnaires have been received, and to answer any questions that you may have.

Your contribution to this research will be of invaluable assistance to us.

Thank you for your cooperation.

Yours truly,

Public School Boards' Association of Alberta

David King, Executive Director

Appendix D

Letter of Transmittal, Round Two

November 6, 1992

Dear _____:

Re: A Delphic Survey for Public School Superintendents

Thank you sincerely for participating in the first round of our study of the future of Public School Education. As this is intended to be a long-term study (surveying students in 1993, trustees in 1994, school administrators and teachers in 1995, community leaders in 1996 and back to Superintendents in 1997), the information you provide will be very interesting for not only this study, but for comparative purposes also.

The future issues identified in Round One were used to construct the attached questionnaire. With the exception of three questions, the rest of this survey asks you to read the ranked responses provided by you and your colleagues (in effect, a summary of Round One responses). We then ask you to either endorse the ranking, rerank the responses, or add any new comments you may have. The original rankings were attained by analyzing the frequency of each response in Round One. The most frequent response to any question received a rank of 1. The second most frequent response received a rank of 2, and so on. In the case of ties, responses were given the same rank.

Once the results from this final round of the study have been analyzed, a summary of the findings will be sent to you.

Your participation at this stage will allow us to complete a valid study. Please mail your responses back to the Association in the stamped, addressed envelope provided, by December 7th, 1992.

Thank you for your anticipated assistance.

Yours truly,

Public School Boards' Association of Alberta

Shelley Golonowski, Special Assistant

Appendix E

Round Two Questionnaire

1992 Delphic Survey for the Public School Boards' Association of Alberta

Superintendents: Round 2

Section 1: The Student

A. What is likely to be the attitude of adults towards students in the future?

	Rank (as identified in first round)	Reranking
There will be competition for services between the growing seniors population and the education of students.	1	_____
There will be continued disappointment with what students are accomplishing and doing.	2	_____
There will be no change in the attitude of adults towards students.	3	_____
Students will be viewed as responsible for their own education and actions (more self-determined).	4	_____
Life-long learning will become necessary and most adults will also be students.	5	_____

Do you agree with this ranking? Yes _____ No _____

If no, please rerank in the column provided (#1= most likely).

If there is any attitude you think is likely, but is not mentioned above, please feel free to comment below.

What expectations are adults likely to have of students?

	Rank	Rerank
There will be greater expectations for performance.	1	_____
Students will be expected to be actively involved in planning their own future; to be responsible.	2	_____
There will be no change in the expectations of students.	3	_____
Students will be expected to complete school with good skills for job entry or higher education.	4	_____
Expectations of students will be consistent with adult(parent) expectations and experiences.	5	_____
Students will be expected to be adaptable; to adjust to changing times.	5	_____

Do you agree with this ranking? Yes _____ No _____

If no, please rerank in the column provided (#1= most likely).

If there is any expectation you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

B. How might the attitudes and expectations described in Part A influence the education of students?

	Rank	Rerank
There will be an increase in streaming students with various talents (specialized schools).	1	_____
There will be a resistance to change the education of students.	1	_____
Increase in educational costs will mean doing more with less.	1	_____
Education will become "meaner and leaner".	1	_____
There will be more time spent in training institutions (less in "school") with the emphasis being on utility.	2	_____
Learning through technology will increase.	2	_____
Opportunities for students will be curtailed by adults' difficulties with change.	2	_____
There will be a need to prepare students for a desired future.	2	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

C. What do you think students will expect from their education system in the future?

	Rank	Rerank
To prepare them for a variety of career options, economic success or further studies.	1	_____
That there will be a relevant program that matches their learning styles and interests.	2	_____
To have the skills to deal with life choices in a changing society.	3	_____
To be more flexible with programs, scheduling, exams, home schooling, individual study, etc.	4	_____
Higher quality of delivery / instruction / methodology. Educational reform.	4	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section II: Education in General

A. What do you think the education system will look like in the future? What might be the principle component parts, who might be the principle participants, and what might be the relationship of each of these to others?

	Rank	Rerank
There will be closer ties with the community, business and industry. Work experience and career options will be more important, and there will be easier movement between school and work.	1	_____
It will be more open with many more "players" from the community providing educational programs to people of all ages (more delivery systems, less institutionalized, more locations).	1	_____
There will be a higher technological component (improved use of computers).	2	_____
It will be highly individualized. Students progress at own rate.	3	_____
Teachers will be more like consultants / facilitators of learning.	4	_____
There will be increased centralization (administrative and financial).	4	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

B. What would you identify as the major groups concerned about education?

	Rank	Rerank
Business / Industry / Employers	1	_____
Parents	2	_____
Students	3	_____
Government	4	_____
Teachers	5	_____
Community / Society / Public	6	_____
Rate payers	7	_____
Further Educational institutions	7	_____

Do you agree with this ranking? Yes _____ No _____

If there is any group you think is as likely to be concerned about education as the ones mentioned above, please feel free to comment below.

_____

_____

C. What do you think is the future of the relationship between Public School jurisdictions and separate school districts?

	Rank	Rerank
It will be adversarial.	1	_____
There will be competition over limited resources.	2	_____
Relationships will remain cordial at the professional level -- little change.	2	_____
There will continue to be both systems with some increased cooperation.	3	_____
They will become one system / amalgamation.	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section III: Governance and Finance of Education

A. How do you think public education will be funded in the future?

	Rank	Rerank
The same (or similar) to the way it is funded now.	1	_____
Through some kind of income of sales tax.	2	_____
"User pay" approach will increase (fewer tax payers are parents).	3	_____
There will be an increase in funding at provincial and federal government levels.	4	_____
Business share (taxes) will increase.	5	_____
Through vouchers directly to parents.	6	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

B. How do you think the responsibilities for education will be divided among the various levels of government (the local, provincial and national governments, and the international community)?

	Rank	Rerank
The national government will play a larger role (common curriculum, standards, and a national direction.)	1	_____
There will be increasing responsibilities and involvement at the local level.	2	_____
The provincial government will continue to play a significant or increasing role.	2	_____
There will be a decrease in directional control at the local level.	3	_____
The international community will provide incentives for performance, competition and comparative studies.	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

C. What do you think will be the balance of power between individuals or groups on the one hand and governing bodies (eg. Board of Trustees) on the other hand?

	Rank	Rerank
Individuals and groups will have a growing influence on choice. They will have increasing power and will put greater demands on boards.	1	_____
Governing bodies will have increasing power - certainly in the long term.	2	_____
In the short term, boards of trustees will loose power.	3	_____
There will be no change; governing bodies will "accept" advice from individuals and groups.	4	_____
There will be shared power: 50 - 50.	5	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

D. How to you think the role of system administrators will evolve in the future?

	Rank	Rerank
Their role will be more of facilitators - responsible for consultation, motivation and monitoring.	1	_____
Their role will be more political.	2	_____
They will need more leadership and planning skills, and they will need to be less of a manager.	2	_____
They will need to be more involved in marketing their jurisdictions (changes, etc.).	3	_____
There will be less of them as jurisdictions merge and schools close.	4	_____
They will be less important, school administrators will be more responsive to parents.	4	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section IV: Purpose, Goals and Objectives of Public Education.

A. What do you think the mandates, goals and objectives of the Public School system will be in the future?

	Rank	Rerank
To develop students who have the skills, knowledge, and attitudes to be productively employed in a pluralistic society.	1	_____
The current mandate and goals are fine (they will be the same or similar to the present).	2	_____
To be inclusive; to take in all students, promoting tolerance and understanding.	3	_____
To accommodate individual needs and interests.	4	_____
To provide a good basic education.	5	_____
To prepare students for change.	5	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section V: Curriculum and Instruction

A.I. What, if any, changes to you think there will be in the education of teachers?

	Rank	Rerank
The education of teachers will shift to mainly methodology: learning how to teach, diagnose, plan and program.	1	_____
There will be more (or longer) practicums: more on the job training.	2	_____
There will be pressure for accountability, recertification and updating. Certification will not be for life.	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

A.II. What, if any, changes to you think there will be in the role of the teacher?

	Rank	Rerank
The teachers role will be more of a facilitator, evaluator and diagnostician, not a dispenser of information.	1	_____
There will be expanded use of paraprofessional support (possibly less teachers).	2	_____
Teachers will be more like counselors, guides and pseudo parents, understanding human psychology.	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

B.I. What courses do you think will be offered in the future?

	Rank	Rerank
There will be no significant changes in academic courses.	1	_____
There will be more courses teaching skills specific to the business community.	2	_____
There will be courses in technology; using computers in all subjects will be required.	3	_____
There will be more emphasis on interpersonal and communication skills.	4	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

B.II. How might this (what courses will be offered) be decided upon and by whom?

	Rank	Rerank
Governments will make the decisions.	1	_____
Industry, advanced education and the individual will play an increasing role in deciding what is taught.	2	_____
Decisions will be consumer driven.	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

B.III. What kind of teaching strategies might be in use?

	Rank	Rerank
Emphasis will be to teach students how to access and use information.	1	_____
Teaching strategies will be more individualized.	2	_____
There will be more teamwork in teaching (counselors, social workers, healthcare, etc.).	3	_____

Do you agree with this ranking? Yes ___ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

B.IV. What might be the role of technology?

	Rank	Rerank
Technology will play a greater role in the delivery of instruction. It will have an increased role in the classroom. Children will be computer literate at an early age.	1	_____
Technology will have limited use in the classroom because teachers are suspicious of it.	1	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section VI: Facilities

A. Comment on what you think will be the future of the traditional school building?

	Rank	Rerank
We will always have a school building; a base to work from. It will be very accessible to the public and its links with other businesses will grow.	1	_____
There will be more provisions for technology: schools will be "wired" to access information.	2	_____
Schools will have a far more flexible space design to accommodate individuals and small and large groups. Also, to "open" thoughts.	3	_____
There will be few major building changes (no funds).	4	_____
Schools will be the centre of learning and recreation for the entire community - child to senior. The building will function all day, all year.	5	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

Section VII: The Future as Seen Through our Vocabulary

A. Below is a list of educational terms with the most frequent future definitions (and their rank) from Round One provided. Please indicate whether or not you agree with the definition. If not, you may provide your own definition on the space provided.

	Rank	Agree	Disagree
Trustees: meaning will remain the same.	1	_____	_____
Trustees: will be responsible for local policy and implementation.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Local Autonomy: There will be less local autonomy.	1	_____	_____
Local Autonomy: Meaning will remain the same.	2	_____	_____
Local Autonomy: will be confined to school councils ("school autonomy").	3	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Grade: this term will disappear.	1	_____	_____
Grade: meaning will probably stay as is.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Testing: meaning will remain the same.	1	_____	_____
Testing: will be more ongoing, with greater sophistication.	2	_____	_____
Testing: will be tied more closely to external standards.	3	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Home Schooling: will increase in the future.	1	_____	_____
Home Schooling: will remain the same.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Mainstreaming: will have little meaning in the future as all students will progress at their own rate.	1	_____	_____
Mainstreaming: meaning will remain the same.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Separate School Districts: will stay unchanged.	1	_____	_____
Separate School Districts: will decrease, or may disappear as they are deemed unnecessary.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Compulsory Attendance: this concept will no longer exist.	1	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Retention: this concept will disappear (will give way to "continuous learning" idea).	1	_____	_____
Retention: meaning will remain the same.	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Teacher: will remain the same.	1	_____	_____
Teacher: will come to mean "facilitator".	2	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Private Schooling: will remain the same.	1	_____	_____
Private Schooling: will flourish (especially under a voucher program).	___	_____	_____
Private Schooling: will take on specialist (elitist, job training) roles rather than religiosity.	___	_____	_____

Comment: _____

_____

	Rank	Agree	Disagree
Special Education: will have little meaning as all children will have "special" education.	1	_____	_____
Special Education: will remain the same.	2	_____	_____
Special Education: will find it difficult to get funding (to exist).	3	_____	_____

Comment: _____

_____

B. Round one responses indicated the following five words to have a different meaning in the future. Please indicate whether or not you agree with the changed definition. If not, you may provide your own definition, or any other comment you wish, on the space provided.

	Agree	Disagree
Teacher: will come to mean "facilitator".	_____	_____

Comment: _____

_____

	Agree	Disagree
Credits: will mean "accomplished learning", or something performance based.	_____	_____

Comment: _____

_____

Junior High Schools: will become "middle schools".	_____	_____

Comment: _____

_____

Report Cards: will change as a student's progress will include more aspects of learning than grade based competencies.	_____	_____

Comment: _____

_____

	Agree	Disagree
Learning: will have a more individualized meaning (especially as technology and methodology change).	_____	_____

Comment: _____

C. Round one responses indicated the following to be two new ideas which may emerge in the future and require new labels. Please indicate whether or not you agree with the concept. A space is provided for any comment you may have.

	Agree	Disagree
"Stability": schools will be required to provide this for children (day care, healthcare, social services, recreation centre).	_____	_____

Comment: _____

There will be lots of new terminology arising from the technology/computer industry.	_____	_____

Comment: _____

Section VIII: The Environment in Alberta

A. Comment on the future of the economy and the social / political situation, and the consequences for education.

	Rank	Rerank
We must face economic realities and temper our demands. Education will survive, but it will become more functional; more "bottom-line".	1	_____
The public will not tolerate inequities and the tax drain for social services and education. Some new tax system must be developed to support education.	2	_____
The economy will improve and education will come out of the turmoil O.K.	2	_____
Limited funds will mean <u>less</u> allocated for education. However, there will still be demands for effective use of "funds".	3	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

Section IV: Surprises

A. What do you imagine may have a major impact on public school education and is not being properly weighed by most people concerned about education?

	Rank	Rerank
The need (and cost) for schools to stay technologically relevant and competitive.	1	_____
The expansion of private schools.	1	_____
An increase in the number of dysfunctional families and behavior problem students.	2	_____

Do you agree with this ranking? Yes _____ No _____

If there is any response you think is likely, but is not mentioned above, please feel free to comment below.

_____

_____

A sincere thank you is extended to you for taking the time to contribute to our research.

Appendix F

Frequency Distribution Tables of Round Two Response Ranks

TABLE 1

Frequency Distribution of Round 2 Response Ranks:
Section I, Question A.I

	Rank					
Response	1	2	3	4	5	Total
1	21	4	3	2	1	31
2	1	17	4	6	3	31
3	1	0	17	4	9	31
4	2	4	5	17	3	31
5	5	7	2	2	14	30

TABLE 2

Frequency Distribution of Round 2 Response Ranks:
Section I, Question A.II

	Rank						
Response	1	2	3	4	5	6	Total
1	26	4	0	0	0	0	30
2	1	18	7	5	0	0	31
3	0	0	11	5	9	5	30
4	3	5	9	13	0	1	31
5	0	1	1	1	25	3	31
6	1	3	3	9	13	2	31

TABLE 3

Frequency Distribution of Round 2 Response Ranks:
Section I, Question B

	Rank								
Response	1	2	3	4	5	6	7	8	Total
1	20	4	3	0	0	2	0	0	29
2	18	3	1	2	1	2	1	1	29
3	20	2	1	2	2	0	0	0	27
4	21	4	1	1	1	0	0	0	28
5	2	17	4	1	1	2	1	0	28
6	8	20	1	1	1	0	0	0	31
7	1	19	2	1	1	0	3	2	29
8	3	18	3	1	1	0	1	2	29

TABLE 4

Frequency Distribution of Round 2 Response Ranks:
Section I, Question C

	Rank					
Response	1	2	3	4	5	Total
1	25	3	2	0	1	31
2	1	23	2	2	3	31
3	4	2	20	4	1	31
4	1	5	4	21	0	31
5	0	2	5	18	6	31

TABLE 5

Frequency Distribution of Round 2 Response Ranks:
Section II, Question A

	Rank						
Response	1	2	3	4	5	6	Total
1	26	1	1	1	2	0	31
2	24	1	2	2	1	1	31
3	3	23	4	1	0	0	31
4	2	3	23	0	2	0	30
5	1	2	2	24	0	1	30
6	0	1	0	22	4	2	29

TABLE 6

Frequency Distribution of Round 2 Response Ranks:
Section II, Question B

	Rank								
Response	1	2	3	4	5	6	7	8	Total
1	14	4	7	2	3	1	0	0	31
2	16	11	4	0	0	0	0	0	31
3	2	11	9	4	3	0	0	1	30
4	0	1	3	12	4	6	2	1	29
5	4	3	6	6	9	1	0	0	29
6	0	1	2	2	5	14	2	2	28
7	0	0	0	3	2	5	15	4	29
8	0	0	2	0	3	4	17	3	29

TABLE 7

Frequency Distribution of Round 2 Response Ranks:
Section II, Question C

	Rank					
Response	1	2	3	4	5	Total
1	20	3	2	5	1	31
2	6	22	2	1	0	31
3	2	19	6	3	1	31
4	3	3	20	4	1	31
5	5	0	17	4	7	30

TABLE 8

Frequency Distribution of Round 2 Response Ranks:
Section III, Question A

	Rank						
Response	1	2	3	4	5	6	Total
1	22	2	0	3	1	0	28
2	4	16	3	3	2	1	29
3	2	7	15	5	1	0	30
4	1	0	0	12	8	5	26
5	0	3	7	2	12	5	29
6	1	2	4	4	3	15	29

TABLE 9

Frequency Distribution of Round 2 Response Ranks:
Section III, Question B

	Rank					
Response	1	2	3	4	5	Total
1	21	2	2	2	1	28
2	4	16	6	2	0	28
3	2	21	5	0	0	28
4	0	0	16	1	6	23
5	2	2	11	5	3	23

TABLE 10

Frequency Distribution of Round 2 Response Ranks:
Section III, Question C

	Rank					
Response	1	2	3	4	5	Total
1	21	0	0	0	0	21
2	0	20	1	0	0	21
3	0	2	19	0	0	21
4	0	0	0	21	0	21
5	0	0	0	0	20	20

TABLE 11

Frequency Distribution of Round 2 Response Ranks:
Section III, Question D

	Rank						
Response	1	2	3	4	5	6	Total
1	18	2	2	1	0	0	23
2	1	18	0	2	1	3	25
3	4	15	2	1	0	2	24
4	0	2	17	2	2	1	24
5	0	2	1	17	1	0	21
6	1	1	1	16	1	2	22

TABLE 12

Frequency Distribution of Round 2 Response Ranks:
Section IV, Question A

	Rank						
Response	1	2	3	4	5	6	Total
1	28	1	1	1	0	0	31
2	0	17	5	4	1	3	30
3	0	2	20	2	4	2	30
4	1	6	1	20	2	1	31
5	4	3	2	2	19	0	30
6	1	4	4	2	18	2	31

TABLE 13

Frequency Distribution of Round 2 Response Ranks:
Section V, Question A.I

	Rank			
Response	1	2	3	Total
1	20	4	7	31
2	3	24	3	30
3	7	3	21	31

TABLE 14

Frequency Distribution of Round 2 Response Ranks:
Section V, Question A.II

	Rank			
Response	1	2	3	Total
1	29	2	0	31
2	2	29	0	31
3	0	0	31	31

TABLE 15

Frequency Distribution of Round 2 Response Ranks:
Section V, Question B.I

	Rank				
Response	1	2	3	4	Total
1	14	1	5	11	31
2	3	15	8	5	31
3	8	12	11	0	31
4	6	5	8	12	31

TABLE 16

Frequency Distribution of Round 2 Response Ranks:
Section V, Question B.II

	Rank			
Response	1	2	3	Total
1	21	4	6	31
2	8	20	3	31
3	4	6	21	31

TABLE 17

Frequency Distribution of Round 2 Response Ranks:
Section V, Question B.III

	Rank			
Response	1	2	3	Total
1	29	2	0	31
2	1	29	1	31
3	1	0	30	31

TABLE 18

Frequency Distribution of Round 2 Response Ranks:
Section V, Question B.IV

	Rank		
Response	1	2	Total
1	31	0	31
2	4	27	31

TABLE 19

Frequency Distribution of Round 2 Response Ranks:
Section VI, Question A

	Rank					
Response	1	2	3	4	5	Total
1	27	0	2	1	1	31
2	1	27	1	2	0	31
3	2	2	27	0	0	31
4	0	1	0	24	6	31
5	1	1	1	4	24	31

TABLE 20

Frequency Distribution of Round 2 Response Ranks:
Section VIII, Question A

	Rank				
Response	1	2	3	4	Total
1	24	7	0	0	31
2	3	21	6	1	31
3	0	17	3	11	31
4	5	4	22	0	31

TABLE 21

Frequency Distribution of Round 2 Response Ranks:
Section IX, Question A

	Rank			
Response	1	2	3	Total
1	19	6	4	29
2	11	7	11	29
3	12	16	1	29